

UNITED STATES ARMY
COMBAT FORCES
Journal

MARCH 1954
50¢



MEET THE ARMY'S BOSS

TELL THE ARMY'S STORY



GENERAL CHARLES L. BOLTE

Vice Chief of Staff, USA

TO describe a modern army as masses of men—armed with rifle and bayonet—who can be conveniently wiped out en masse by super weapons is utterly erroneous. The machine gun disposed of that type of army many years ago. The whole concept of a modern army is geared to speed, dispersion, and firepower. The individual fighting man, whether by foot or by tank, must still close with the enemy and destroy him, but he now has weapons of greater range and firepower to assist him, and he has better communications with which to call upon these weapons.

The whole trend of our Army is towards smaller units of greater firepower and mobility, with a consequent capability to deploy over a wider area and to present a less profitable target. You may rest assured that your Army leaders are well aware of what new weapons can and cannot do and are acting accordingly. Our Army, far from being made obsolete by these weapons, is taking advantage of them to further strengthen our great capabilities.

Because the full potentialities of our global airpower, like our global seapower, are impossible of achievement without many bases overseas, we would need ground forces if it were only to protect these bases. But, more than the protection of air and sea bases, the compelling necessity for effective defense of strategic land areas of the world vital to our national security points out the requirement for strong ground forces ready to repel aggression. . . .

I believe, therefore, that it is time for all of us to think about the role of the Army in the light of the many new developments taking place so rapidly. It

Soldiers should proclaim the Army's role loudly and clearly, fully confident of its future usefulness

may seem to you to be a very complex subject—which indeed it is. Yet the broad outlines of the Army's capabilities and limitations are well known to you, and the capabilities and limitations of the latest modern weapons—though to a large extent highly classified—can be evaluated from your own military knowledge and from the information about these weapons which has been made available. You are already studying the effects of tactical atomic weapons upon the tactics of armor.

I want to assure this audience that the concept of mobile warfare is acquiring added importance as the effects of new weapons and their influence upon tactics and strategy are studied at higher levels. The Armor will continue to be a major force upon the battlefield and the necessity to have mobile, hard hitting armored units immediately available for any emergency is of paramount importance. How these new weapons will shape the organization and tactics of the Army as a whole is also a fruitful field for your study and consideration.

OF great importance, too, is the role that the Army plans as a partner in the Armed Forces team . . . The Army has a proud record of achievement and faces a future which may place greater demands upon it than any emergency of the past. We in the Army must never forget our prime reason for being—victory in battle. We are preparing ourselves daily for any mission—no matter how dangerous or difficult—which the security of our Nation may demand. And have no doubt about it, when the chips are down and the Nation is in peril, the Army's tremendous capability will be as essential as in the past.

I think that we should proclaim this fact with clear and confident voices, so that the people will have no doubt or confusion concerning the role of their Army, and so that our soldiers will have no doubt about the essential need they fill. You and your comrades in all the other arms and services are best qualified

to explain the Army's many capabilities.

The Army will continue to be progressive and forward looking. We are taking advantage of every technical and scientific advance to enlarge our capabilities and increase our firepower. In our training and in our doctrine, we are gearing our thinking to the tests of the future, while retaining the valid principles which our extensive combat experience has demonstrated to be sound.

We should be neither pessimists nor alarmists, but confident. There is in the Army today a great reservoir of combat experience and a corps of combat-tested leaders of proved ability. Our Nation is the most advanced, industrially, scientifically, and politically, of any nation in the world, and our people are blessed with a high level of education, a strong spiritual and moral character, and a deep love of country. Our people are equal to any challenge to their security, and their actions during the past decade and a half have shown their capacity and willingness to defend their beliefs at any cost. Our Army, which derives its strength and character from our people, reflects their virtues and their abilities.

I KNOW from long experience that you men and your comrades throughout the Army all over the world are the finest soldiers and officers that any fighting force can boast. I know, too, that you not only have a glorious record behind you, but that you have a future of limitless service ahead of you.

You are not only a credit to the American people but you are the indispensable element of national security. The issue of victory or defeat still rests upon the bravery, devotion, and determination of the individual soldier.

I urge you, therefore, to think upon this subject . . . to be aware of the expanding capabilities of the Army in this modern age. Each of you should, in the interests of our Nation, reflect on this theme and carry it to the people with truth and logic and should inculcate it in your men at every opportunity.

SYMBOL



Behind this symbol are 30,000 men and women with countless skills, trades and professions whose ingenuity is so greatly contributing to our nation's production resources. They are the builders of today's F-84F THUNDERSTREAK fighter-bombers for our Air Force and for the air arms of the friendly allies banded together in NATO. > > The scope of our work is world wide even though most of us live on Long Island or within a 50 mile radius. Among other things we come and go in 10,000 automobiles. We earn an average of \$2,500,000 weekly with which we support our families and our 230 individual communities by payments of more than \$10,000,000 annually in Federal, State and local taxes (this is in addition to the millions paid in taxes by Republic itself). > > We also buy \$631,000 worth of defense bonds each month. We use material and equipment supplied by 2,126 firms in the United States which totalled over \$385,000,000 last year. This helps provide employment for another 300,000 of our fellow Americans. > > The aircraft manufacturing industry has become an integral part of the national economy as well as a vital link in the pattern of peace for the defense of our Country and the free world.

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UNITED STATES ARMY COMBAT FORCES *Journal*

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Journal's Journal

THE COMBAT FORCES JOURNAL's objectives are stated in the objectives of the Association of the U. S. Army (see page 4 if you didn't read it last month) and to carry out these objectives it is the duty of the staff to represent the professional interests of the whole Army of the United States. We are very conscious of the dimensions of the task. And very determined to carry it out.

The principal way, as we see it, is to concentrate on those problems and subjects that affect the whole Army and every man in it. The professional interests of the Army embrace all problems of national defense. Therefore, we are interested in whether the resources given the Army will permit it to carry out its many missions. It means that we are interested in those problems that affect the efficiency and well-being of every man in the Army. It means that we are interested in the missions of all of the arms and services. This doesn't mean that we won't refrain from commenting on and explaining arm and service differences. It does mean that we will make every effort to be fair and present both sides of all such questions. Our job isn't to proselytize you, but to inform you so that you can think for yourself.

It is our job, though, to proselytize the public. We think the best way to do this is to keep the JOURNAL's professional standards high; to be literate, informed and as nearly authoritative as an unofficial magazine can be. This we think will make the magazine itself a symbol of the Army's alertness and efficiency. In the long run we think this will pay off much better than any effort to be sensational in order to attract the press and radio and TV commentators. We are always happy when the press finds something in the CFJ to comment on, but we don't think a professional journal has a duty to scare you or anyone else in an effort to make a headline.

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THE CURRENT SCENE

Tell the Army's Story. Gen. Charles L. Bolte	Cover 2
Meet the Army's Boss. A CFJ Staff report	8
The New Strategy's Unanswered Questions. Walter Millis	12
New Look for Reserves. A CFJ Staff report	20
The Month's Reading—Interview with Monty	21

MEN AND METHODS

The Human Price of Combat. Marjorie Van de Water	24
Gridding the Single Vertical Photo. Maj. Dana L. Thompson	26
This Is Logistics. Col. Edward E. Benson	30
Career Management and Your Future—7. Civilian Schooling	42

AT HOME AND ABROAD

Around the Bases—Japan. Maj. Marco Polo	27
The Armies of Communism. Lt. Col. John Baker White	33

MACHINES AND WEAPONS

The Use of Flame in Korea. Lt. Col. Walter L. Miller	37
Irons in the Fire	41

DEPARTMENTS

Next Month's Journal	2	The Month's Pictures	18
The Month's Mail	4	The Month's Comment	32
Front and Center	7	The Word from the Schools	40
The Month's Books		43	

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U. S. Infantry Association, 1893-1950

U. S. Field Artillery Association, 1910-1950

PURPOSES

The Association of the United States Army shall be an organization wherein all who are in accord with its objectives may join in the exchange of ideas and information on military matters, and in fostering, supporting, and advocating the legitimate and proper role of the Army of the United States and of all its elements, branches, and components in providing for and assuring the Nation's military security.

OBJECTIVES

The objectives of the Association shall be to encourage and foster for all elements, branches, and components of the Army of the United States, and for such veterans' and unit organizations as may be appropriate:

The dissemination of information relating to history, activities, problems and plans.

The exchange of ideas on and discussion of military matters.

The perpetuation of those Army and unit traditions that contribute to esprit de corps and superior performance of duty.

The cultivation of cordial relations among the several armed services and with the public.

The promotion, attainment, and preservation of high professional standards.

INSTRUMENTALITIES

The primary instrumentality for the carrying out of the purposes and the attainment of the objectives of the Association shall be the publication of its magazine, COMBAT FORCES JOURNAL. The secondary instrumentalities of the Association for the carrying out of its purposes and the attainment of its objectives shall be the preparation, publication, and distribution of military books, and the performance of related activities in fact contributing to the Association's stated aims.

Adopted 14 December 1953 by the Executive Council.

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The Month's Mail

Thermo-nukes and Strategy

Let me congratulate you and Lloyd Norman on a very provocative and interesting article. You can be sure it was read with a good deal of attention by the busy bevy of scientists in this institution and at other places where scientists are working on national defense questions.

My feeling is that he hit upon but did not fully explore most of the terrible problems of national policy and strategy in the nuclear age. I am glad to see that you are having an article by Walter Millis. I hope he can throw some light on what ground force operations may be like in the day of atomic plenty.

Name and address withheld.

• This is from a personal letter to the editor by a distinguished professor, now on the staff of a research organization.

To the Editors:

"The New Look Strategy" by Mr. Lloyd Norman renews my faith in the courage and integrity of the United States Army. Nothing could be more dishonest, foolhardy, and ineffective than the security program we are being sold at the present time. It is certainly not worth the cost. Half of its ineffectiveness could not be told without breaking security, but certainly there is enough damning evidence in the article to satisfy any intelligent reader.

I congratulate you on having the courage to print this article . . .

DAVID C. PRINCE.

50 Washington Avenue
Schenectady, N. Y.

To the Editors:

That article on the new look in strategy was interesting, but doesn't it take a great deal for granted? For one thing, that the Reds have no good guided missiles? They grabbed off quite a few missile men in Germany. Furthermore, they seem to have a strange knack of simplifying things, as in their crude and very practical small arms, and their tanks, which are not as pretty as ours, but much more numerous. It might be that they can do the same with guided missiles. Also, they are not as noted for Kamikaze work as the Nips, but are capable of it. What if they get up a rocket missile with a suicide pilot? He couldn't react as fast as a robot, but he could think of a lot of things that can't be built into the circuits of a 150-pound machine.

They surprised us with the MIG fighter. We had been advised by many who thought they knew, that the Reds had no original ideas and could not make good jet planes. . . . They had four-engine bombers in service by the dozens at a time when Congress was arguing over the high cost of the first B-17. . . .

So, Mr. Norman's "Air Power Strategist" thinks fighter interceptors and AA guns can guard bases? The Reds have developed guerrilla warfare to the point where it is quite a pain. An airfield with its long runways and huge fuel storage areas is one of the finest targets there is. It takes other explosives to set off a bomb dump, but a match and some straw will light fuel. Or even a flint and steel. . . .

There is much talk about small elite forces here and there. We should think very deeply before we go in for such. A small force can turn into a Praetorian Guard much faster than a large one. And then also, the small force may be like England's Old Contemptibles of 1914. They were the finest force of their day, but when they were gone there was nothing to take their place. If we develop a small regular establishment, we ought to get up a large Swiss type reserve force behind it.

I would like to see some articles on what we learned in Korea. Not what we *thought* we learned, either. . . .

JOHN P. CONLON

52 Columbia Street
Newark, Ohio

COMBAT FORCES JOURNAL

Service in the Ranks

To the Editors:

I hear that the reduction in the strength of the Army is going to result in many Army ROTC graduates not being called to duty even though they have an obligation to their government.

This is obviously unfair to the young lieutenants and to the men of their age who didn't go to college and were drafted and who served in Korea or elsewhere. It also lends ammunition to those who have insisted that the choice of college or draft is undemocratic because it gave boys who could afford to go to college an advantage over those who couldn't afford it.

The solution is to let these young graduates serve as enlisted men and learn something about the Army in which they may later serve as officers. If you say that would be a violation of the contract the Army gave these ROTC students, I would say that it is also a violation of the contract not to call them up at all.

Furthermore, it is time that we recognize that some of our best officer material are the young, intelligent noncommissioned officers who entered the Army instead of going to college. Many of them are quitting the Army. If they could be commissioned, many of them might stay.

Indeed, the traditional gap between non-commissioned and commissioned rank needs some new thinking in the light of present-day conditions. But that would take a much longer letter than this one.

JONATHAN CARMEN

Fairfax County, Va.

65th Division History

To the Editors:

This is my first letter to you since I subscribed to your magazine in 1946. It is not educational, just a request for information.

Since I found out that my old division, the 65th, had a unit history published, *The 65th Infantry Division Pictorial History, European Theater of Operations, 2 March 1945 to 9 May 1945*, from the Office of the Chief of Military History, I have not been successful in locating the history. I have checked with your Book Service Department, and they have no knowledge of this history.

I would appreciate it if you would publish this letter. Maybe one of your readers might have one to sell.

THOMAS D. NASH

2009 North Oakley Ave.
Chicago 47, Ill.

Magnificent Piece

To the Editors:

I thought "Division Objective" by Lieut. Col. Eben Swift in the October issue was one of the most magnificent pieces I have ever seen produced by an American Army officer. Certainly I could see why Colonel Swift was "one of those officers who were encouraged to write by Colonel Greene."

... You have won my unreserved, cap-in-

hand homage for having had the military acumen and the editorial courage to print such a thought-stimulating piece.

One reason the article hit me the way it did was because I was once thoroughly ridiculed by a senior officer at a cocktail party in Vienna in 1945 for making the observation that it was entirely possible for one determined enemy soldier to stop an entire division. I have never actually seen it happen but I have seen many situations in which it could have happened.

The article will make some people mad, but any officer with an open mind and some grassroots combat experience will cheer Colonel Swift for having done such a story—and for having picked one of our best divisions for the example. Those of the "Big Red One" who have any brains will be flattered by the choice, rather than offended; I'm sure the author selected them in this spirit.

MAJ. MARK M. BOATNER, III

G-1 Section,
Headquarters AFCE
APO 343
San Francisco, Calif.

GI Schooling for Pros

To the Editors:

After years of watching the armed services (especially the Army) fight for men with good education, I feel that I have a solution. This solution has been available since the end of World War II, but unfortunately the Army failed to grasp it, and so lost out to private industry.

The GI bill program indirectly subsidized private industry in its search for educated and skilled replacements for the labor pool. The Army did not get its share of these people as they became available. We must face the fact that the armed forces are, and will be in the foreseeable future, in the labor market for all skills, and yet they are not able to compete with industry.


Now there is no sense in sitting around and feeling sad. Let's attack the problem. Let's send our career men back to school under their individual GI rights and give them full pay and allowances while they are doing it.

This will bring howls of protest. Before you yell, though, let me ask: Do you want an educated service? Do you mean it when you say that modern arms require more and more brains? Yes? Well, let's proceed then. My program is a must for the services.

A man who puts himself through school, technical or educational, does so the hard way, especially if he also has a family. Even if he does this on Dad or the GI bill, it is hard going. When he gets through, he looks for the best job with the most immediate benefits, and frankly, the Army doesn't have enough to offer. Private industry does and it gets him. However, if the Army could offer full pay and allowances to a man in school he would think a long time about who had what to offer. If a man is going to make the service his career, he isn't going to have time to go

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back to school first, as we say enlist now or else. If he goes back to school we never see him again. By underwriting him as I propose, we could enlarge our entire Army school program. When we send a man to a service school, we have his pay and allowances, plus the upkeep of the school. So why not use the civilian schools that are already established and make the BAs and ABs commonplace in the Army?

Maj. HARRY W. MORSE

USS *Eldorado*
FPO, San Francisco, Calif.

Alaska Base

To the Editors:

I like your magazine and find that it usually has something to say and says it well. I particularly enjoy your historical articles and was looking forward to your geographical series with a great deal of interest. The Alaska article, however, was a severe disappointment. A few examples might show you what I mean.

The map illustrating the article is poorly drawn and contains much incorrect information . . .

The Alaska Highway (and all other highways in Alaska) are maintained by the Department of the Interior, not the Army.

There are two television stations in Anchorage and one is being installed in Fairbanks.

How can you get around with no outer half to the parka?

The station allowances listed are those of 1951.

Heavy duty tires are not required as most Alaska roads are paved and the gravel roads are kept in reasonable shape except during the spring breakup.

Batteries will not freeze if they are maintained at full charge.

The statement "No driver will pass a car that is stopped on the road" is an unwarranted generalization.

I have omitted those doubtful items which are strictly a matter of opinion; however, there are many.

I hope the remainder of your series is more carefully researched.

LT. COL. A. R. GRANT

APC 949, c/o Postmaster
Seattle, Washington

• The map came from a source in the Department of Defense and we thought it was up-to-date. The editors asked Major Polo to report on the other items in Colonel Grant's bill-of-particulars, and he states:

"Touché! The colonel is absolutely right that Alaskan highways (and all other highways in Alaska) are maintained by the Department of the Interior. They are, in fact, maintained by the Alaska Road Commission, originally an organ of the War Department.

"He is correct, too, when he says there are two television stations in Anchorage, and one being built in Fairbanks. However, when I wrote 'there is no television in Alaska,' and when *Combat Forces Journal* set it in type, the statement was correct. KTVA-TV in Anchorage began limited broadcasting on December 11, 1953, and KFIA-TV, also in Anchorage, began on December 14. Both are still operating a short broadcast day under temporary permits. KFIF-TV, Fairbanks, has not yet started broadcasting.

"As for the parka, I quote an officer recently returned from duty as assistant commandant of the Arctic Indoctrination School, Big Delta:

"In order to permit rapid adjustment of clothing through the wide range of temperatures and activities that a soldier in the Arctic experiences, the Arctic uniform is designed around the layer principle. Clothing is added to prevent excessive heat loss, or removed when heat production exceeds loss as usually occurs during muscular work. By the addition or removal of a layer of clothing, the soldier is able to maintain his body heat balance. For most conditions a soldier encounters, the intermediate jacket and trousers provide sufficient protection. As a result the outer parka and trousers, though an essential part of the Arctic uniform, are not regularly worn by soldiers in the Arctic.' This officer and his colleague seldom wore their outer parkas; their wives did wear them.

"On the station allowance, I listened to the wrong Finance officer. Current allowance for officers whose dependents are with them is \$3.80 a day. I'm sorry.

"About the tires. The colonel says, 'most Alaska roads are paved.' My facts show that there are 3,467 miles of road in Alaska, of which 619 miles are paved. The remaining 2,848 are gravel or dirt. I stick with the statement that 'it is wise, however, to fit your car with heavy-duty tires,' and automotive engineers in the Office of the Chief of Ordnance agree. Such tires will hold up better.

"Ordnance also supports me on the batteries. FM 70-15 says: 'The efficiency of storage batteries decreases with decreasing temperatures. At 40 degrees below zero, even a fully-charged battery becomes practically inoperative. Batteries must be warmed either by a heater or by remaining in a warm room before they will deliver much power.' The FM goes on to say that 'Batteries should be kept fully charged as a fully charged battery will not freeze at temperatures normally encountered,' but it doesn't seem to me that it makes much difference to the average motorist whether his battery is actually frozen or whether it is too cold to work when he goes out to try to start the car.

"As for passing cars that are stopped on the road, the truckers wouldn't do it, old-timers in the territory wouldn't do it, and I can only conclude that the Colonel must have had some unhappy experience with newcomers in a normally friendly land."

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**What's Happened to "air transportable" Army • Teaching the three Rs "essential"?
Finance Corps wants to do a better job of paying you (not a raise!)**

A few years ago all Army leaders were saying that the Army must become "air transportable" and presumably all arms and services were instructed to work towards that goal in establishing requirements and in funds expended for research and development. One result of this was the development of the XV-1 Convertiplane (see page 41). Other developments such as lighter equipment have been publicized while still others are necessarily classified. The big question is whether future "new look" budgets will reduce Army funds for research and development and field testing of machines and weapons that may be developed. The Army's story of how long it takes to translate a designer's blueprint into a fully tested weapon delivered to field units has never been adequately told. In contrast, the Air Force has an established SOP that gives it fresh publicity at certain stages in the birth pangs of each of its new models.

As the new president of the Air Transport Association, Former Under Secretary of the Army Earl D. Johnson is in a position to urge the industry to give more attention to the Army's need of greater airlift capacity. Influence is needed in view of the projected reduction of the number of Air Force troop carrier wings from 17 to 11 in the "new look" budget. Mr. Johnson, who has said that "we will always need ground soldiers," thinks surplus airlift to meet military emergencies is an unsolved problem.

Since the Army is to be cut more than ten per cent, it would seem logical to have Selective Service eliminate the one out of ten men who has to be given an elementary education before basic training. But such a reasonable opportunity to help the Army reduce its overhead seems impossible. Instead, these men are to be taught reading, writing and arithmetic by the Army before they enter basic training. At the rate of 20,000 draftees a month, 200 men will have to be clothed, fed and housed for two to four weeks while they are taught the three Rs. The soldier involved in caring

for these men are part of the "support" force—a category that has been called "fat" and unbusinesslike.

Contradictions in the objectives of the "new look" for the Army have been emphasized in a number of articles in The St. Louis Post-Dispatch by Brig. Gen. Thomas R. Phillips, retired. General Phillips has shown that the objective of creating a strategic reserve in the ZI cannot be achieved if the Army's strength is to be reduced without reducing the Army's commitments abroad. "As it stands today," General Phillips wrote, "the civilian command is demanding that the Army do the impossible, that is, to reduce its manpower without reducing overseas forces."

Some officers have objected to the name "Supply Command" recommended by the Advisory Committee on Army Organization, pointing out that the tech-

nical services have many other missions other than supplying the combat arms. The Committee realized that, but adopted the term only after writing a very special definition for the word "supply." Here it is:

"The term 'supply' is used to refer to that sequence of related activities that include research and development, computation of supply requirements, procurement, production, storage, distribution, maintenance and disposal of matériel, the rendering of logistical services such as medical, communications, engineering, transportation and the training of troops specializing in these activities and services."

The All-Army Rifle and Pistol Championship matches will be held at Fort Benning in July as a part of the Army's Competitive Marksmanship program. Teams will represent the six army areas and major overseas commands. Candidates for the U. S. Army rifle and pistol teams will be picked during these matches.

While a few members of the Congress are speaking of the advisability of gearing service pay to the cost of living (a practice that is becoming more and more common in industry), Secretary of Defense Wilson has said that the military is somewhat different from industry "on account of the fringe benefits and things that you get from being a veteran." He has not yet indicated which of those so-called "benefits" he would support. "If it is a sound and right thing, I'll take it on, on its merit," he has said.

Soldiers may not get a raise but they may get paid with greater efficiency and less snafu. Finance Corps has a three-man committee at work on the problem of paying soldiers promptly and accurately under all circumstances. This is no fly-by-night study, but a two-year project. The committee is beginning its work by making a study of all previous reports on the same subject. The committee invites suggestions. Project officer is Lt. Col. J. M. Parker, Office Chief of Finance.

Get in Your Form DA 1041

If you have 17 years of service or more in any component of any of the armed services, or if you are already retired, time is getting short. The Uniform Service Contingency Option Act of 1953 carries a 30 April deadline for action. If you miss this deadline you're out in the cold—and the Act is a very warming deal for most eligible men.

This Act permits you to take a reduction in retired pay to provide a lifetime annuity for your wife, or payments to your children until they become 18. It affects all retired military personnel, and all those who expect to retire at any time in the future.

You must fill out Form 1041 by 30 April 1954, or before completion of 18 years of service, whichever comes later.

Most eligibles will be notified of the Act and the deadline through normal military channels. If you have 17 years or more of military service and haven't been notified, you had better check with the nearest military headquarters right now!



Mr. Stevens smiles at the welcome he received on his arrival at Eighth Army headquarters in Seoul on his second trip to Korea. In his first year as Secretary, Mr. Stevens made three trips to Korea and one to Germany, flew more than 500 hours and travelled more than 100,000 miles, the equivalent of four trips around the world.

A businessman, who knows soldiers and wants to do something for them, is a man you ought to know, so

MEET THE ARMY'S BOSS

PROFESSIONAL soldiers ought to be better acquainted with their civilian boss: Robert T. Stevens. In the year he has been Secretary of the Army, Mr. Stevens has displayed a deep understanding of the motives and problems of the men who wear the uniform of the Army. Soldiers who work with him say he is an "old pro" himself—a result that can be attributed in part to his service in uniform in two wars. He has shown that he believes soldiers can be given a larger role in the operating responsibilities of the Army.

Two incidents about members of the Stevens family demonstrate the spirit with which Mr. Stevens is serving the Army.

In December 1952 a Seventh Army public information officer told Private First Class William G. Stevens that a *Stars and Stripes* cameraman wanted to photograph the son of Mr. Eisenhower's Secretary of the Army-designate. Private Stevens was reluctant, but he put it up to the PIO: "If you think it will help the Army, I'll do it," he said. It would and he did.

The second occurred last October when the Secretary and Mrs. Stevens flew to San Diego where Mr. Stevens was to address the National Guard Association convention. When they entered the auditorium, the officer escorting Mrs. Stevens asked her whether she preferred to sit on the speaker's platform or in the audience. "I'll do whichever you think will be the best for the Army," she replied.

Those who have watched Mr. Stevens during his first year as Secretary will testify that his every action and decision is based on a desire to do "what is best for the Army and the nation."

In an interview with a representative of *COMBAT FORCES JOURNAL* he said that he is deeply hopeful that he can make at least one lasting contribution to the well-being of the professional soldier. "At this time I don't know just what it will be, but I am giving it a great deal of thought and I am open to suggestions," he told his interviewer.

Chiefs and Indians in the Pentagon will tell you that if Mr. Stevens just continues as he has during his first year he may long be remembered as the Secretary of the Army who renewed the Army's faith in itself. Perhaps that may be the lasting contribution he is seeking. Cer-

COMBAT FORCES JOURNAL

tainly, if Mr. Stevens can help soldiers successfully ride out the critical state of transition the Army is going through, it will be a significant achievement.

THE record is encouraging. Mr. Stevens has never failed to tell his fellow Americans publicly that they are fortunate to be served by soldiers who are men of integrity, high purpose and ability. Talk may be easy, but the record shows that he spoke up at a time when it might have been personally easier and politically wiser to remain silent, to say that the "vast majority of those who make up our defense establishment, both in uniform and out, are conscientious, patriotic, hard-working Americans, doing a fine job, day in and day out."

Mr. Stevens's first demonstration that he was prepared to defend the uniformed men when they were right came during the ammunition hearings which broke when he had hardly become accustomed to his new office. When the Chief of Staff was under strong questioning by some senators, Mr. Stevens did not hesitate to intervene. General Collins, he said, had a consistent record of having recommended larger funds for ammunition than were asked by the Department of Defense. "I would like to take this opportunity of paying my own tribute to General Collins for having had the foresight to estimate the situation the way he did," Mr. Stevens observed.

And a few months ago, at a testimonial dinner given by the leaders of the textile industry, Mr. Stevens spoke of the Army and its soldiers in these words:

"And, as for the Army. Well, no Secretary could ask for finer support. Believing as they do in civilian control of the military, there is never a time when they do not vigorously support and uphold the hand of their Secretary. Our Army leaders are unqualifiedly outstanding. We should be thankful that our military can produce men of such character and ability. We must maintain the dignity of the professional soldier if the services are to continue to attract the quality of manpower needed to

defend our country in time of war. This is a challenge to all of us."

He is a staunch believer in our democratic processes and is convinced that Congress reflects the will and the temper of the people. The solution to the ills that presently affect the professional soldier and his family is to get responsible people outside the Army interested in the problem, he has said.

"This is a tough period for the professional soldier," he told the JOURNAL. "I don't pretend to know all the answers, but I am sure that Congress will do the right thing if it is put up to it in a reasonable and fair way."

MR. STEVENS's belief in the democratic process includes literal acceptance of the principle of civilian control of the military. When asked his concept of the principle as applied to his position as Secretary of the Army, he replied very simply: "It means I'm the boss."

His concept of a "boss" is not that of a man who oversees every little job and second guesses his subordinates. He sees it as a job that requires him to determine and interpret basic policies to those to whom he gives the authority to carry them out. He then makes himself accessible to his subordinates in order to consult and advise with them on current operations and future plans. Not only is he accessible to his principal civilian assistants and to the Chief and Vice Chief of Staff but to the Deputy Chiefs, the four Assistant Chiefs, and the chiefs of the administrative and special staffs. But no matter how extensive the authority he delegates, he never forgets or permits his subordinates to forget that his is the ultimate responsibility for everything done within the Department of the Army.

Mr. Stevens believes that personal contact is the most efficient way of doing business and he and General Ridgway visit back and forth through their adjoining offices half a dozen times a day when both are in Washington. He has a distaste for written memoranda and



In Korea, Mr. Stevens visited Company B, 180th Infantry (among other outfits) and had lunch with Colonel Thomas Beck, the regimental commander (*left*), and Lieutenant James Van Doren, the company commander (*right*).

sees them as the cause of many differences that would otherwise not exist.

"The principal trouble with memo-writing is that people are tempted to put a barb into it to get it read," he said. "This raises questions and another memo. I write as few memoranda as I can and encourage everyone else to do the same."

An intense man who gives all he has to the job at hand, Mr. Stevens has worked so hard at being Secretary of the Army that some of his co-workers are amazed at the single-purposeness and concentration with which he applies himself. Some of them believe he would do an even better job if he relaxed occasionally. "His two greatest faults, if you can call them that, are over-conscientiousness and a tendency to do too much in the fields in which he is most interested," one of them observed recently.

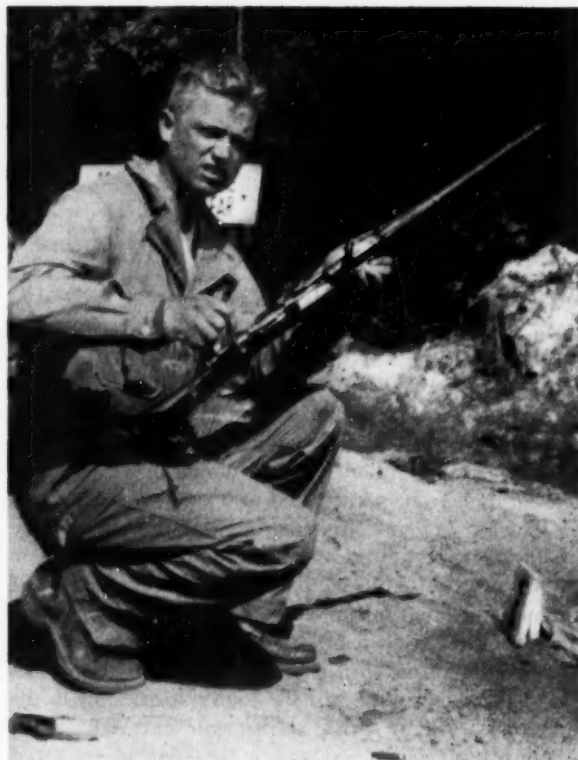
He doesn't violate the chain of command and pass directives to the lower echelons that are involved in those activities in which he is most interested, but in the words of his admiring critic: "He calls 'em all in and keeps them there for hours, worrying the subject to death."

He devotes a great deal of his time to Congressional matters and to relations with the Department of Defense. No inquiry or complaint by a Representative or Senator is too inconsequential to escape his full attention. Part of this is undoubtedly a reflection of Mr. Stevens's complete belief in the virtues and wisdom of representative government.

He maintains close liaison with members of Secretary of Defense Wilson's "team" of Secretaries and gives close attention to all Army business with the Defense Department. He believes in unification and sees the need for a strong Department of Defense organization, but he also vigorously backs the Army's point of view in conferences with Defense officials when he believes the Nation's interests demand it.

Another responsibility that Mr. Stevens takes with utmost seriousness is the selection of officers for important command and staff positions. He holds that this is one of the most important functions of a Secretary of the Army. He has found that his prior military service helps him perform this task.

MR. STEVENS grew up in the toughly competitive textile business. The J. P. Stevens Company, one of the largest in the industry, is a family corporation that had its beginnings in 1813. The Secretary's father built the business to its prominence in the industry. The present Secretary went into the business after graduating from Yale in 1921—his college years were interrupted by service as a second lieutenant of Field Artillery in 1918. In 1929 his father died and he became President of the J. P. Stevens Company. In 1945 he was named Chairman of the Board. His reluctance to sell all of the stock in the firm in order to be confirmed as Secretary of the Army was based on much more than financial considerations. "I am steeped in sentiment and tradition with respect to the company that bears my father's name," he told the Senate committee. However, he did divest him-



Colonel Stevens on the rifle range at Camp Lee, Va., in 1943.

self of the stock and was confirmed by the U. S. Senate.

When he was commissioned in the Quartermaster Corps in 1942 he told the people he left in charge of the Stevens Company that he "would not in any way at any time, directly or indirectly, discuss with any former associate anything that had to do with the purchase of Government materials."

Then when he reported for duty he told General Gregory, the Quartermaster General, that "in the unlikely circumstance that anything affecting the Stevens Company would ever come to the attention of the Quartermaster Corps, that I would like to have an understanding that it be referred immediately to General Corbin [Major General C. L. Corbin, now retired, but then Colonel Stevens's immediate superior], or in his absence, to General Gregory. That was followed meticulously through the entire war effort."

In addition to the J. P. Stevens Company, Mr. Stevens has holdings and served on the boards of directors of a number of corporations. He has been Chairman of the Board of the Federal Reserve Bank of New York and an officer in the Association of Cotton Textile Merchants.

One of the Stevenses' four sons is following his father's footsteps in the J. P. Stevens Company. The third son, William Gallon, enlisted in the Army late in 1951 for three years, dropping out of college to do it. Obviously proud of his son who had enlisted even though he was eligible for a college deferment, Mr. Stevens has told how it came about: "He told us he didn't believe he should try for a student deferment. He felt he should do his part and that he was going to enlist." Then the

Secretary added: "Now obviously, the whole question of student deferments isn't quite as simple as that—the military services certainly need a large number of college trained men."

Young Stevens enlisted, expecting to go into the infantry and combat in Korea. But like many a recruit before him, he found that the Army has its own way of disposing of personal expectations, and he found himself at a Signal Corps replacement training center, followed by assignment to Seventh Army in Europe.

In addition to the South Plainfield, N. J. home, the Stevenses own the American Fork Ranch near Two Dot, Montana where they raise white-face Herefords—"an operating cattle ranch," the Secretary says proudly.

AS far as is known, Mr. Stevens had no prior intimation that General Eisenhower was considering him for Secretary of the Army. He had never met the President-elect until he was called to his New York headquarters for a fifteen-minute conference in December 1952, at which he accepted the appointment. He is listed as a Republican but his political activities seem to have been subordinated to his many business interests and non-political government posts.

In 1940 Mr. Stevens was one of the many civilians who heeded the call of President Roosevelt and joined the National Defense Advisory Commission in a civilian capacity. For a time he was head of the Textile Section of the Commission and later was coordinator of defense contracts, Office of Production Management, in the New York area. One of the highest compliments paid his work in those days is contained in a paragraph devoted to one of his accomplishments by Robert E. Sherwood in *Roosevelt and Hopkins*—that intimate history of the highest levels of the administration of the Second World War. Writing of the "bewilderment and frenzied uncertainty that prevailed in Washington in 1940," Mr. Sherwood continued:

Among the many patriotic industrialists called to Washington was Robert T. Stevens, one of the country's leading textile manufacturers. When he arrived he had only the vaguest idea of his duties, but Donald Nelson told him, "Look around in the War and Navy Departments and find out what their requirements are in textiles and figure out a way to meet them." Stevens found out about the needs for uniforms, blankets, blackout curtains, etc., which required no special talents, and then he began to think that perhaps he was called upon for the exercise of his own imagination. Trying to consider every phase of war activity that might involve the use of textiles he thought of parachutes. It then occurred to him that with French and Italian manufacturers of silk closed to us, our only source was Japan, and, while he knew next to nothing about the international situation, it seemed conceivable to him that this source might be shut off; also. He therefore felt that perhaps we should start stockpiling silk. He learned that the average requirement was four parachutes per war plane—figuring the heavy bombers (eleven men) plus the pursuit planes (one man) plus the essential reserves. He consulted the procurement officers in the Army and Navy and was told that they estimated they would need a total of 9,000 parachutes for the coming year, 1940-41—6,500 for the Army Air Corps, 2,500 for the Navy. Stevens did some multiplication of his own and told the officers that he figured they would need 200,000 parachutes instead of the 9,000 for which they were asking. They asked him how he had arrived at this fantastic figure. He replied,

"The President has asked for 50,000 war planes. I just multiplied that by four."

WHEN Pearl Harbor was attacked, Mr. Stevens was in a surprising spot—the Command and General Staff School at Fort Leavenworth, Kansas, where he had completed a special course the day before. This had come about as a result of a letter he had received in September of 1941 from General Marshall, the then Chief of Staff of the Army.

General Marshall had invited about thirty-five business and professional men to attend a special course at Leavenworth. It was something of an experiment for he wanted to familiarize some selected civilians with what the Army was thinking about at that time of great impending danger to our country.

Secretary Stevens has since said: "I shall always be thankful that I accepted his invitation. Only eleven others did so. I think it is perhaps indicative of the general lack of a sense of urgency that only one out of three of us, who were invited, actually showed up. We graduated on December 6th, and I was saying goodbye to the many friends I had made among the officers stationed at the school when we received the news of Pearl Harbor.

"And so, as a civilian, I had the unique experience of listening to the details of the attack on Pearl Harbor unfold over the radio among Regular Army officers at a Regular Army post. Although I had served in the Field Artillery during World War I, that one experience at Fort Leavenworth made me more conscious of the necessity for military preparedness than I would ever otherwise have been. I have never wavered since that time on the subject of preparedness."

After Pearl Harbor Mr. Stevens went into uniform as a lieutenant colonel in the Quartermaster Corps. All of his wartime service was in the Office of the Quartermaster General except for a month's special duty in ETO in the spring of 1945. Uniformed businessmen were no novelty in the Quartermaster Corps during the war years and only the ablest stand out in the memory of the professional officers of the Corps. Mr. Stevens was one of these. A retired general officer who had some contact with Colonel Stevens in the Procurement Division of the Office of the Quartermaster General remembers him well.

"He was the highest type of citizen-soldier—the kind the Army must rely upon in time of war—outstandingly able, unselfish and energetic," this officer said recently. "Colonel Stevens's many years of experience on the other side of the counter—selling to the QMC—gave him a superb background for the jobs assigned him, but his competence went far beyond his mastery of the complex technicalities of procurement. He was a good soldier."

Mr. Stevens left the service in October 1945. For his services he was awarded the Legion of Merit and the Distinguished Service Medal, an honor that he says he "prizes more highly than anyone can know."

He returned to his business activities convinced, he said a few months ago, that "this old man" would never again be called upon by the Army. He was wrong—to the good fortune, soldiers hopefully testify, of the Army.



WE here at COMBAT FORCES JOURNAL don't conceive it as our function to tell soldiers: "Here's the way you should do it." The control we have been delegated to exercise over this element of the nation's press gives us neither omniscience nor authority, but a duty to give you pertinent facts and interpretation as fairly and clearly as we possibly can and in such a way as to prod and needle you into thinking for yourselves. That is why in the last several issues we have sought to interpret and clarify the issues raised by the advent of nuclear weapons in quantity and the new national strategy.

We began the examination in our January issue (which, because it was made up in November, actually anticipated the new military strategy) in presenting Mr. Hanson W. Baldwin's very timely warning that the use of "unlimited means to achieve unlimited destruction" could result in our own destruction, and his plea for restraint in our plans for using nuclear weapons.

In our February issue we continued the theme with Mr. Lloyd Norman's provocative examination of the origins and implications of the new strategy.

In this issue we present thoughtful reflections on the subject by another well-informed newspaperman. In asking more questions than he answers, Mr. Walter Millis points the way for further study of the problems raised by the strategy of instant retaliation.

We believe that these three articles are useful contributions to the national debate on military security. We also believe that they have laid the groundwork for some stimulating discussion on how the Army shall meet the challenges of the age of nuclear weapons. This field properly belong to soldiers who have battlefield know-how and to those scientists who can give soldiers the scientific know-how that must be applied to the soldier's organization and tactics. In our future issues we hope many of you will have an opportunity to contribute in a worthwhile way to this vital subject. Nothing could be more important right now.



THE NEW STRATEGY'S UNANSWERED QUESTIONS

WALTER MILLIS

THE extraordinary and more or less unanticipated development of nuclear weapons—alike in power, in convenience of delivery and particularly in numbers—has posed some problems, not only of battlefield tactics and theater strategy but of overall national policy, which are, to say the least, disturbing.

Obviously of first importance to the soldier, these problems are just as significant to the civilian, whose attitudes so often determine the conditions under which the soldier works and the objectives for which his life is committed. The public reaction to the new abundance of nuclear weapons is already affecting military policy. President Eisenhower's announced intention to withdraw two Army divisions from Korea does not mention atomic bombs; while the budget decision to cut back Army personnel by about 18 percent in fiscal 1955 was not ostensibly based on the development of nuclear firepower. All the same, it is hard to believe that these decisions would have been risked had it not been for the mounting atomic arsenal.

Yet as far as I can see, we have made barely more than a beginning upon the task of integrating these weap-

ons into a rational structure of national tactics and policy. What follows is strictly a civilian view and the view of one with no classified knowledge of nuclear weaponry. But the published information is sufficiently disquieting. It is so full of baffling and fearsome dilemmas as to force everyone, civilian and soldier alike, back to some searching consideration of what as a nation we are doing and trying to do.

Since the introduction of the atomic bomb at Hiroshima, American military policy has been through several well-defined phases. We began by not only demobilizing our conventional forces but by trying to secure the abolition and rigid international prohibition of atomic weapons as well. It was soon clear, however, that the Soviet Union would never consent to the latter—or not, at least, until it had succeeded in establishing a nuclear weapons production of its own—while the possibility of another world war was much greater than it had seemed in the first bright days of 1946. Our policy entered a second phase, in which we left the conventional forces reduced to a skeleton, but relied on the threat value of our atomic monopoly to deter the Soviet Union from warlike adven-



WALTER MILLIS is an editorial writer for The New York Herald Tribune and also writes a special column (called "Arms and Men") on national defense subjects. Mr. MILLIS has been with the Herald Tribune since 1924. He is a graduate of Yale and his college career was interrupted with Army service as a second lieutenant of Field Artillery in 1918 (he didn't get to France). Mr. MILLIS's several books and newspaper work mark him as a candid realist who writes persuasively and clearly. Some of his work is almost satirical, notably *The Martial Spirit* (1931), an appraisal of our conduct of The Spanish-American War, and *The Road to War* (1935), an account of the events that led to our entry into the First World War. This tongue-in-cheek realism is present, but less apparent, in *This is Pearl!* (1947), a meticulous account of the events that preceded and followed the disaster of 7 December 1941. Mr. MILLIS wrote the present article at the request of the editors, who are grateful that he should take time from the busy life of a newspaperman to analyze the "new look" so clearly for our soldier audience.



ture. With a small stock of completed weapons and of planes we believed capable of delivering them, we held the Soviet cities and their inhabitants in hostage, as it were, for the good behavior of the Red Army.

It was not always realized that there was another side to the medal: the Red Army, clearly capable of overrunning the whole continent long before any form of "strategic" attack on its industrial base could bring it to a halt, held Western Europe in hostage for the good behavior of the American atomic bombers. Meanwhile, the Soviet Union had various forms of military action open to it for which the mass slaughters of "population bombing" were an obviously impossible reply. The first indication that this situation had its defects came with the Soviet rape of Czechoslovakia in the spring of 1948; the crushing demonstration came with the Korean War in June, 1950, when the only thing which could save us from a shattering defeat was ground troops, conventionally armed, which we were just able to scrape together in time.

THE atomic bombs were useless. Throwing them at the great Russian and Chinese cities would have been as militarily futile, so far as the battle lines in Korea were

concerned, as it would have been barbaric and dangerous. But there were probably too few in existence at that time (and too little practical experience with their "tactical" effects and potentialities) for them to have been dissipated in ground combat operations. In terms of the slaughter of a nation's inhabitants, the destruction of its resources and the long-term paralysis of its military strength, the most "efficient" use of nuclear weapons was, and undoubtedly still is, against the great centers of urban population—where they find a concentrated target to work on and ample quantities of glass, brick, inflammable structures and broken gas mains and power lines to work with. The more limited the supply of the weapons, the more necessary it is to save them for targets of that character.

But that kind of warfare is simply too big and terrible a bludgeon to apply in any conflict in which (as in Korea or today in Indochina) the object is something less than total destruction or total victory. The great program of rearmament launched in 1950 did not, of course, neglect the upbuilding of the threat value of our capabilities for nuclear destruction (the more so because we had discovered in the meanwhile that our monopoly was at an end and the Russians well on their way to creating a counter-threat) but its real center of effort went into re-creating the conventional forces—the ground troops, with



their modern heavy weapons, tanks and artillery, with their tactical air and naval support. These were what were needed for withstanding a limited-objective attack like that launched against us in Korea, for meeting a situation like that in Indochina, for holding strategic positions, controlling the local course of events or erecting something like a real barrier against the Red Army's ability to overrun Western Europe by conventional means, thus securing at a stroke a commanding position from which appalling amounts of atomic destruction thereafter would be unlikely to dislodge them.

Only the ground soldier is capable of fighting and winning both big and little wars

WE had to escape the thralldom of a weapons system too big and too dangerous to use in anything but the last extremity. This denied us the power to take military action in the various minor crises out of which the last extremity might easily come, as well as denying us the power to react in a major crisis in any but one way—a way which the enemy might easily discover means to circumvent or nullify. Though it may not always have seemed so, the primary emphasis of the great military, diplomatic and economic programs undertaken after mid-1950 was on the ground soldier; the infantryman, who alone holds or takes territory, who is the last-line protection of one's own institutions and who actually captures the centers of the enemy's will—his governmental machinery, communications and other levers of power—in order to bend that will to our own. While billions have gone into supporting weapons and services of all kinds, the real core of our military policy has lain in the rebuilding of our twenty Army and three Marine divisions, in the build-up of the NATO armies; in our effort to bring German ground divisions into the structure; in the arming and training of eighteen Korean divisions and the hopes of developing a ground army in Japan.

All these troops and hoped-for troops have been designed in general along conventional lines, to meet Soviet and satellite armies designed on similar lines and to fight—whether in big wars or smaller ones—on the established pattern of holding or taking ground (ground, after all, is where people live, and people are what wars are always about), by the use of local firepower and individual courage and sacrifice. Such was the policy of the third phase, which opened in 1950, and as long as the

nuclear weapons were relatively scarce, and would consequently have to be confined to a population-bombing campaign against big cities (which might or might not actually take place), it would seem to have been eminently sound.

NOW, however, it is being challenged on two broad grounds; and with the challenge we appear to be entering into a fourth phase, the shape of which is still obscure. The first ground is, bluntly, that this policy costs too much; the second, that nuclear weapons are no longer scarce. The task of creating a conventional military system that would really stand up against the Soviet-satellite system was already beginning to seem insupportable to all the NATO partners (including the United States) before the end of 1952. It meant unacceptable tax burdens and onerous claims on manpower for military duty. Neither the Soviet taxpayer nor Soviet manpower has much to say in such matters. But in the West, where both usually have an effective vote, the political leaders became increasingly convinced that to reproduce an approximation—in numbers, equipment and degree of readiness—of the Soviet conventional warfare system would “undermine the economic foundations” of the defense. The large initial plans have already been considerably scaled down and “stretched out” in time; whether justifiably or not, only the event can tell, though the decision, all things considered, does not seem unduly reckless.

It was easier to take, however, because of the transfor-



mation in the situation regarding nuclear weapons. It was apparently in 1952 that the atomic bombs really began to pour out of our own factories—possibly a more profoundly significant development than the success with the prototype hydrogen or “thermonuclear” weapon—and to be produced in numbers by the Russians. It also proved possible to reduce the package for a “nominal” or Hiroshima-type bomb to dimensions permitting it to be delivered by a fighter-bomber, a small carrier-borne naval plane or the Army’s 11-inch mobile gun. All the services turned to an intensive study of the uses of the atomic bomb in their own operations; and as Admiral Radford, the Chairman of the Joint Chiefs of Staff, has recently said, these weapons have now reached “practically conventional status” with all. The idea that nuclear firepower now provides a new equivalent for Soviet manpower in conventional warfare is an obvious one. We have all just witnessed the Korean case, in which the smaller army, more lavishly equipped and supplied with firepower, proved an even match for a much larger force with inferior weaponry and ammunition supplies. The atomic fireball is the most staggering and deadly concentration of firepower ever known. Why should not the West, which presumably still holds a considerable lead over the Russians in the numbers of these weapons at its command, substitute them in conventional warfare for the men who would otherwise be required to meet the superior Soviet numbers?

THE idea is logical. But the question which troubles the civilian observer is, just how is this going to be done, and what are going to be the long-range effects on national policy, purposes and freedom of action? Just what did Admiral Radford mean when he said the nuclear weapons have reached “practically conventional status” in all three services? Obviously that Army, Navy and tactical Air (as well as strategic) now have the means of discharging them; that all expect to have numbers of the bombs available for their own use; that all are frantically trying to figure out how they may best use them and also, perhaps, what to do in case the Russians should start throwing them back. All this would still not mean that the weapons have been brought into the framework of conventional warfare as we have known it.

In 1950 we had to get men in a hurry to do things which we discovered that the atomic bombs we then had could not do. If the Chairman of the Joint Chiefs had said something to the effect that the nuclear weapons would permit the deactivation of so many heavy artillery battalions per division or so much armor or even so much infantry, we would have a fair assurance that the bombs really were reaching “conventional status” and showing that they could now do things for which in 1950 we had to get men. But no such comparison has yet emerged from the military authorities. And if the observer tries to make one for himself he runs up at the outset against

an almost insuperable obstacle.

If one tries to estimate the effect of nuclear weapons on a conventional campaign of the World War II type, it is immediately obvious that the critical datum is the number of such weapons which will probably be available to each side. It is often said that in atomic warfare numbers are irrelevant; that if the Russians, for example, can devastate all important areas of Western life with 200 nuclear weapons, it makes no difference whether we have 2,000 or 20,000. The first couple of hundred thrown from each side will have done the job and decided the issue—provided anybody is left alive to record the decision. While this may be true of “strategic” atomic warfare, however, it is certainly not true of the “tactical” employment of atomic weapons.

CONSIDER another campaign on a basically conventional pattern in Western Europe. If the Supreme Allied Commander had ten or a dozen nuclear weapons available and reason to believe that the other side had no more, the bombs would have to be used largely as weapons of opportunity. Tactics would have to be devoted to creating the opportunity, by forcing the enemy to concentrate into suitably profitable targets, while control over the bombs would remain with the highest headquarters. Tactics would also have to be devoted to dispersing one’s own troops and supply facilities to avoid the enemy’s atomic strokes. The two aims—dispersal on one’s own side and forcing the enemy to concentrate—are of course contradictory and neither can be easily achieved, or if achieved, successfully exploited, by a centralized top command subject to all the intelligence lags and rigidities of response which afflict higher headquarters. *The net result might be a war very much like past wars, embellished by one or two strokes of very good or very bad luck, but in the intervals requiring just as many men and proceeding by much the same operations as we are familiar with.*

The case would be totally different if the Supreme Allied Commander had not ten but a thousand nuclear weapons available. They could then be expended on relatively lesser targets, and the authority to call for them could be vested in much lower echelons of command. If the enemy possessed bombs in much smaller numbers (and today the Soviet stockpile probably does not amount to more than a tenth of our own) they might have little or no surplus to give to their ground army commanders; and the net result might make it possible to halt a conventional Soviet ground attack, and wage a successful counterattack upon their troops with somewhat fewer infantry and armored formations than would otherwise be required. Yet our own ground commanders would still have some anxious moments before deciding to begin throwing these terrible weapons indiscriminately about the landscape. If the Russians were unable to reply in kind against our troops, the consequence might well be

A war in which both sides use nuclear weapons may require more and not fewer soldiers

merely to force them to apply their limited stock in the most "efficient" way, which is direct strategic attack upon Western cities.

It has always seemed to me most improbable that the masters of the Kremlin would ever wish to begin a major war with nuclear, population bombing. The Red Army is their great and well-trying military instrument; the whole course of their atomic policy has quite clearly been directed, not toward the mere destruction of the West, but toward neutralizing our own atomic arsenal in order to free the Red Army for the capture of the West (as Hitler captured France) in as nearly intact a state as possible. We have to use our threat of nuclear, population bombing to prevent war if we can; but to introduce these weapons into our conventional strategy in such a way as virtually to force any war that does break out into a pattern of general strategic destruction seems at the very least a dubious course.

IT is possible, of course, that the Russians will expand their stockpile to a point at which the Red Army will have about as many of these weapons available as our own ground forces. To guess what the real effects of this situation would be is quite beyond the powers of a layman. If both sides should begin by trying to apply their nuclear arsenal primarily against the armed forces of the other—in other words, to fight a conventional-type war with plentiful supplies of unconventional weapons—the effects on every aspect of tactics and strategy would certainly be profound and are today probably unpredictable. But it is at least a reasonable guess that the requirement would be for more, not fewer, ground combat troops. They might have to be equipped, supplied and led in altogether new ways; the whole theater might, as some have predicted, tend to break down into a vast guerrilla campaign waged by innumerable small, lightly-armed knots of men capable of living for the most part on the country. But it would still be the number and quality of the ground soldiers which would finally decide, if any decision at all were still possible. In general, as the machines in war have grown more and more powerful and destructive, they have tended to neutralize each other and thus throw the emphasis back upon the man. And if the Russians should be able to match, or even approximately match, our nuclear arsenal for so-called "tactical" purposes, then the introduction of the atom on the battlefield would obviously in no way overcome their superiority in men.

The idea that nuclear weapons can be substituted for trained men in achieving those military results which as a nation we would wish to achieve seems to me, as a lay observer, to be an illusion and a pretty dangerous illusion. It is almost impossible to form any idea of the actual consequences without having some estimate of *how many* weapons would be available to our own and to the other side; and that, of course, is one of the secrets most closely wrapped in atomic security. But the civilian,

who has no access to such secrets, can at least see the broad outlines of the larger problem.

WE have developed two rather distinct forms of war. The purpose of all war and war preparation, of course, is to secure decision of those many issues in international life which cannot be settled by diplomatic, legal, ethical or other non-violent means. The one form of war, which has here been called the "conventional," relies for this upon the conflict of armies, the taking or holding of territory and the physical seizure or dominance of the enemy's governmental institutions. The other or "strategic" form relies upon either the threat or the actuality of the direct slaughter of the enemy people and destruction of their means of livelihood and communication—a means so terrible that it cannot ordinarily be used in the disputes of nations. The nuclear weapons, coupled with the possibility of airborne delivery, have for the first time made the second form of war practicable. But unless we are willing to rely upon it entirely, at the same time foregoing all those military objectives (such as the rescue of South Korea or the defense of Indochina) which can only be achieved in the old way, we shall have to maintain "tactical" ground armies, with their necessary air and naval support.

And while the possibility of reducing their size and cost by substituting atomic firepower for some of their present TNT and smokeless powder weapons in conventional operations has appeared, it does not, at best, seem a very hopeful possibility. Even with atomic weapons flying freely in the combat zone of a conventional military operation, we are likely to need just as many trained combat soldiers as before; while we will have certainly enormously enhanced the danger of the conventional operation turning into the direct attack upon the behind-the-lines populations and economies—something which represents the reduction to a tragic absurdity of all our ideas of military offense or defense.

IT is considerations of this kind which are profoundly disturbing to the civilian observer of what seems to be the present trend of military policy. I do not pretend to know the right answers. The nuclear weapons are with us; the horrible things are pouring out in even greater quantities here, in Russia and in Britain; they do not deteriorate with age, so the stockpiles will grow indefinitely, making constantly more urgent the problem of what in fact is going to be done with them and how they are going to be used. We cannot pretend that they do not exist. But it seems to me that the more we put our reliance upon them the more certainly we are preparing a universal destruction. Unless we retain the means to wage conventional warfare—and that means infantrymen, tankers and the artillery, air and naval support that goes with them—we shall only be committing ourselves to mass suicide of civilization.

The Month's Pictures



In preparation for exercises in Alaska, the 123d Combat Team trained on the snowy slopes of Mt. Rainier, Wash.



Through the eyepiece of the Army's new range finder, the camera sees the target—an M47 tank. Range finder furnishes gunner with precise distance to target.

Ubiquitous camera peers through Army's new range finder

Skier on Mt. McKinley . . . Fusilier poses with NATO rifle

A Royal Fusilier corporal shows off the Belgian FN rifle, recommended for NATO use. The British and Canadian armies, among others, have adopted it.





The twenty-one American and one British deserters pose at Panmunjom in their last contact with the West.

Faces of twenty-two deserters who chose a faceless existence in lands where men are pawns

The face of war on a facsimile machine . . . Eskimo National Guardsman in summer(?) training

Facsimile machine in use during a CPX held by the XVI Corps in Japan.



MARCH 1954

An Alaska National Guardsman tunes in a walkie-talkie during field training.





NEW LOOK FOR RESERVES

The Question remains: "Where are the Men?"

A NEWSPAPER reader could be led to think by reports in the press during the last ninety days that we are about to embark on the greatest changes in our Armed Forces reserve structure since the first National Defense Act in 1916. A closer look, however, creates understandable doubts, particularly at this early stage of the current reevaluation of our defense structure.

There have been some concrete developments, the full significance of which must await further deliberations. First of all, the Administration has embarked upon a new foreign and defense policy popularly described as one of "prompt retaliation" at times, places and methods of our own choosing. This major change in defense direction is pertinent here only to the extent it involves a rather large reduction in the men and units of our active Army. The budget calls for more money for reserve forces in fiscal 1955. The increase will probably be about 20 per cent. The Army is asking for \$90 million to pay reserves and also more for the National Guard.

New Approach. The "new" thinking on how to get an adequate reserve force was introduced in a report to the President by Arthur S. Flemming, Director of the Office of Defense Mobilization. This report was highly significant for several reasons.

First, it represented the first tangible evidence of a real appreciation at the topmost governmental levels of the necessity for energetic action and follow-up if we are ever to have a reserve force worthy of its name.

Next, was its significant departure, at least for the moment, from the Universal Military Training concept which has pervaded our policy thinking since World War II. The Flemming report assigns UMT to at least a temporary limbo and President Eisenhower promptly indicated his agreement with this recommendation.

The third significant feature was its endeavor to reconcile the manpower needs of the military with the needs of the civilian economy in the event of an emergency and without the tremendous upheaval that has accompanied past mobilization efforts.

The Flemming Committee visualized two categories of reservists:

Immediately Callable Reserves

would be subject to call as units and/or individuals when the President felt he needed them. The present National Guard and Organized Reserve units would be in this category.

Selectively Callable Reserves, the second group, would presumably include most of the other able-bodied citizenry of the 18-26 year old age group. This group would be screened continuously to insure that it contained military skills in proper balance for effective execution of required military missions. Each man in the "Selectively Callable Reserve" would be subject to call based on need, occupational requirements, and other factors. It would appear that the committee has in mind from this group a source of special talents that would be either used by the military or by industry, whichever's need for the individual was the greater. Who would determine this need has not yet been established, but presumably it would be a function of Selective Service. This part of the plan is likely to be one of the points of major irritation, as it embodies in somewhat different language the principles of deferment now existing and not overly popular or satisfactory.

Where are the men? It is ironic that in these days of tremendous technological advances that the distribution of physically able manpower is our knottiest problem and the crux of the whole reserve force problem. For example, our National Guard and Organized Reserve of today have many well-trained and well-qualified leaders. Most organized units of both categories are not wanting for equipment or armory and training facilities. What they lack is manpower. They have not been able to attract sufficient young men into the National Guard and Reserve to bring these units up to a strength level where they could be effective immediately upon call. Instead, the military talents of officers and men who have voluntarily participated in these programs have been dissipated in the discouraging effort of recruiting personnel for their units.

We must assume that the manpower for the reserve forces has not been provided in the past because of the unpopularity of involuntary military service. Numberless

boards and commissions have studied and reported on the problem for ten years.

Congress has made a high-sounding declaration: "In a free society the obligation and privileges of serving in the armed forces and the reserve components thereof should be shared generally, in accordance with a system of selection which is fair and just, and which is consistent with the maintenance of an effective national economy."

In almost every session of Congress new legislation to meet the reserve problem is introduced, emasculated and passed, with the result that only a comparatively few men are drafted and these in insufficient numbers to meet the manpower requirements of the active forces. The majority of men do not serve at all (many for physical defects beyond their control). Every effort to provide manpower for the reserves has been successfully thwarted.

Solution? If certain provisions of the existing UMT and Service Act were used the problem would vanish. This says: "The Secretaries of the Army, Navy and Air Force with the approval of the Secretary of Defense, may provide, by regulations which shall be as nearly uniform as practicable, for the release from training and service in the Armed Forces prior to serving the periods prescribed by [law] . . . of individuals who volunteer for and are accepted into organized units of the Army National Guard and Air National Guard and other reserve components."

Since regulations, if enforced, would provide quite a large source of basically trained manpower for our reserve components. Those who would prefer part-time service at home could pursue school or jobs without interruption. But it would also reduce the size of the active forces, something that has not been feasible in the past few years.

Propitious date. The report of the Flemming Committee is an excellent one as far as it goes. President Eisenhower has directed all government agencies to cooperate with it in arriving at concrete solutions for these problems by 1 April of this year. It would be foolhardy to attempt to anticipate what course of action Mr. Flemming's office may suggest. However, the date seems propitious.

The Month's Reading

We depart from formula this month to devote this space to an interview which appeared in the *U. S. News & World Report*, an independent weekly news magazine, published at Washington.

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Interview with Monty

FIELD MARSHAL BERNARD L. MONTGOMERY
Viscount of Alamein
Deputy Supreme Allied Commander in Europe
U. S. News & World Report
29 January 1954

Q Field Marshal Montgomery, what will be the effect of the atomic weapons and other new weapons on your problems?

A Well, the effect of the atomic weapon today is an imponderable. Nobody can say that the atomic weapon has proved that we can do with less forces. Not yet. That has not been proved. There have been no atomic weapons used in the active theater of war today—Korea, Indochina, Malaya—where fighting has been going on.

Q You mean we can't appraise atomic weapons until they have been used in war?

A No, no, I don't at all say that. We're now examining this question here. How will military forces be affected by the progress in science? It will affect the balance, you see—how much must exist in peacetime, always ready, and what can come along after war starts. It will affect that. But there's nothing yet to show that the total force you want has been made less because of the progress of science. It might. It's a "balance" we're after.

Q How about the training of the troops to use these weapons? Have you enough information to train British, French, Dutch troops to use atomic weapons?

A It started when General Ridgway [General Gruenther's predecessor] was here. We opened a school at Oberammergau last spring. Officers of a certain rank from the various nations go there and receive instructions in atomic protection. They study protection not only from enemy use of atomic weapons, but when we use them, to make certain we don't get the backwash. The training approach to the use of the atomic weapon is all going on.

Q Well, do you think it would be useful to have some of these atomic weapons in Europe?

A Certainly. I mean, I would never refuse any weapon. If I were to engage in a roughhouse in Europe, I would like to know that I should be backed by atomic power, certainly.

Mission: "To Forge the Weapon"

Q Field Marshal Montgomery, when General Eisenhower was here at SHAPE [Supreme Headquarters, Allied Powers in Europe] he told me once that your main job was to "forge the weapon," to get the NATO forces into good fighting condition.

A Yes, that's true.

Q What success have you had? How good is this weapon you've been forging?

A Well, . . . in considering the defense of the West against the threat from the East, you've got to go back to the days of 1948 when the Western Alliance was formed. In those days, if the East had wanted to attack the West—I

don't say they did want to, but supposing they did—there wouldn't have been very much in the West to stop it.

The task given us in the Western Alliance days, and carried on when the Western Alliance was absorbed into NATO, was to build up military strength quickly. There were three reasons for it. The first one was to have a deterrent against war. The second one was to have something available if anybody attacked us. The third one was to give confidence to the nations of Europe that we could handle an aggressor.

Now I'd say that today, 1954—that's about five years—that task has largely been achieved. There has been no war. The deterrent build-up for war has paid a dividend.

Now, as the forces grew and grew, the Supreme Commanders—starting with Ike, then Ridgway, Gruenther—they rather handed over to me the sharpening of this weapon. Today, the weapon may not be as big as we want it, but it's pretty sharp. It's a sharp sword on the ground, and backed by air power. Any aggressor five years ago would have had a walkover. Today he would not have a walkover. It would be a bit of "a party" today. Is that what you wanted to know?

Q Yes, indeed, that's it exactly—

A He would not have a walkover. He would probably think twice before he started a roughhouse, you see. And that's what we wanted.

Q I heard it said the other day that if the Russians attacked next week they couldn't even reach the Rhine; the NATO forces are that good now. Is that true?

A I would not subscribe to a statement of that sort. Where they would reach is a matter of opinion. I'm not prepared



Monty: "Totally untrue" that soldiers fight the next war like the last one.

to say today that they could not reach this line or that line in Western Europe. I think that's a dangerous statement.

The aim is to stop them before they could occupy the peoples and territory of the NATO nations. How many weeks or months we could hold them, and when we could start driving them back, is another question. That would depend on the state of our reserve forces.

The Key: Reserves—

Q *Would you say that the balance of forces has now reached the point where the outcome would depend very largely on generalship on both sides?*

A No. Of course, the outcome always depends on generalship. But it depends just as much on: "Is the weapon adequate, big enough, to handle this avalanche that might come at you?"

I think today we have reached the stage where the final outcome depends also on the extent to which nations can spring to arms behind the battle, and move up their reserves. If they cannot spring to arms quickly, what you've got out in front can't last forever without reinforcement. The NATO forces we have built can assure time for our nations to spring to arms and get mobilized. Our fate, if war comes, now depends on that—how fast and how effectively reserves can be thrown in.

Q *How do you see the defense structure changing, then, over this long period? Will we be able to have smaller active forces in the forward screen and count more on reserve forces as time goes on?*

A Well, you have hit a very good point, that. We've got to get "the balance" right as to what exists in peacetime and what comes into being after mobilization. It is that matter, you see, which is now being very carefully examined. What exists in peacetime is expensive, and some nations have said that they cannot continue to carry these enormous defense budgets.

Q *Do you think the Europeans will make some kinds of cuts?*

A You never know what political people will do. I doubt whether the nations of Europe will continue to carry these vast defense budgets indefinitely.

Q *If this were so, would you reduce the active forces and improve the organization and strength of the reserve?*

A That is being examined. The balance between the active forces and the reserve, the right balance between sea, land and air forces, all that is now being examined very carefully to try and get the thing right. That's going on. You're quite right in your question; there lies the answer. What you keep up in peacetime, in being, at full strength—that's expensive. What you keep up as a reserve which can come into being after mobilization—that can be relatively cheap. It's that "balance" that has got to be found.

Role of German Army—

Q *Well, Field Marshal, I wonder if you could tell me this: If defenses in Europe are now quite good, are German troops still needed?*

A Did I ever say they were "quite good"? I said that we have now built up sufficient military strength to be a deterrent against war, which we have done. But I think I said that they are not quite everything we would like. You can't do the defense of Western Europe, which includes Western Germany, without a German contribution. Western Europe includes Western Germany in it.

Q *How long do you think it will take to get the German divisions in the line?*

A I think that would depend a good deal on how quickly the equipment could be supplied. From the man-power point of view, the Germans could do it very quickly. I'm not so certain about the equipment. That's a lot of equipment, you know. I should think, from the command point of view, the thing could be done quite quickly. As for the equipment, it would take longer.

Q *What would be the effect, then? Would that permit NATO to reduce some of the other active forces and put them into reserve?*

A It might, but I should doubt it. I think it would enable us to hold the fort longer and give more time for nations to spring to arms behind; it would have that effect.

Q *How long do you think we should keep at the present force levels of American and British troops in Europe? One year, five years?*

A I haven't even thought of it. I hope during the time I'm mixed up in this business the American troops will not be taken away. They won't, of course.

Q *If you had to fight, you'd like to have them at your side?*

A Oho, certainly—don't ask me that, by the gods!

France: The Keystone—

Q *I'd like to ask a military question based on your war-time experience as Commander of the Northern Army Group. A number of military men, some German ex-generals among them, believe that it's possible to defend Europe with a force in the North and a force in the South. If France will not agree to German forces, they say, it will be necessary to defend Europe with German forces and without, possibly, French forces. Now, is it possible to defend Europe without France as the keystone of the operation?*

A You mean that you could ignore the French and say to them, "You can get out of it; we'll do without you"? Oh, no. Look at that great area there of France on the map. You can't do it. It's my view that you can't defend Western Europe without France. They are the big nation—43 million people. It's not on. What have you got left then? You've got the Dutch, 10 million; Belgium, 9 million; Luxembourg, 300,000. It isn't on. You can't do it without the French; you can't do it.

Q *It's a tempting idea to a lot of people in the United States. If you have to choose between French troops and German troops, they would just as soon have the German troops in the fight. Is that a feasible military concept?*

A We want the German troops in the fight, certainly; but do you mean, without the French?

Q Yes—

A You can't do the thing without the French.

Q *Another question sometimes asked in the United States is, "Will the French fight?" You've inspected the forces in the field. Are they any good?*

A Of course; they're a fine fighting race, the French. They've had a lot of troubles. You people who live in the States and, oh, perhaps the British who live in the British Isles, they don't know what some of these continental nations went through in the war, occupied by the Nazis for a long while. They don't know. Of course, you people live 3,000 miles away. How could you in the Middle West know what it's like to be occupied? Even the British, who live just across the Channel, they don't know. And it's a lot of nonsense, I think, this talk about the French being no good, not fighting. It's absolutely untrue.

You go and see the national-service boys and you find that they are first-class boys, excellent boys. And they will fight. Of course they will fight. They want good leaders; anybody

wants good leaders. The American troops, the British troops, they want good leaders also. I'd say that the national-service boys of all these countries—Norway, Denmark, Holland, Belgium, France, Italy—they're excellent; excellent boys. All they want is good officers. And when people say they don't think the French would fight, you ought to stamp on it! Of course they'll fight.

Q And the divisions are in pretty good shape?

A The divisions they have in Germany are excellent. The French Army in Germany is excellent.

Q Have they got all their equipment now?

A Oh, they've got as much as anybody has got. There's more coming along, you see, and the French Army in the field is excellent and will fight very well. And I hope you'll stamp on any idea they won't. How do they spring up, these ideas that the French won't fight?

Q It's an old idea, I think, that goes back to the 1940 debacle—

A Well, it is 1954 now and things are entirely different.

New Techniques for War—

Q Field Marshal, since Alamein [scene of World War II tank battle], what changes have occurred in the tactics of fighting a war? If war comes now, would it be fought differently than last time?

A Oh, yes, because of the atomics and the progress of science, you see. Let me give you a case in point. You mention Alamein. Now at Alamein, for my original plan of attack, I had to have the moon. I wanted a waning moon, you see, that would be just turned, going down, not a waxing moon. I wasn't ready in the September moon, so I had to wait a month for the October moon. I wouldn't have to do it that way today.

Today you can make your own moonlight. We learned that, as the war went on. With searchlights behind your lines, you could flash them up on the clouds and the light would be reflected to the ground where you wanted it. We learned that, you see. I would make my own moonlight today. But we couldn't then; we didn't understand it.

Q You could illuminate the battlefield?

A Certainly. That's one progress. Now in Normandy we had enormous armies; eventually a couple of million people there. We went across the Channel and we had not got a harbor there. So we brought over these Mulberry harbors. Well, you couldn't do a Normandy landing like that in an atomic age. One A-bomb would wipe it right out.

Q One bomb would wipe out the invasion force?

A No. Wipe out the Mulberry harbor. So all the technique has got to be changed because of the progress of science. And all that we entirely understand.

Q Would you say that we couldn't afford now to be pushed off the Continent, because it might not be possible again to have the large amphibious landings needed to come back?

A That's a very good question. Who told you that one? Actually, it would be difficult to get back. I don't say that a big-scale amphibious operation is impossible, but I do say that it would be difficult to do it against a good enemy in the atomic age. It could be done, but it would be difficult, much more difficult to do.

But the question you asked was, "Since Alamein what changes have been made?" Tremendous. The progress of science has introduced many things which make it easier for us and many things more difficult for us. We soldiers are often accused, you know, of fighting the next war where we left off the last one. Totally untrue. Totally. We're far

more advanced in our thinking than are most politicians.

Q Well, now, what about this whole question of mobility, which you had so much experience with in the desert? Has that changed any? Will there be more or less of it in the next war?

A Oh, well, of course, the desert was a very different place from Europe. We had wide-open spaces. You could crack about, you see. The need for mobility is probably greater today than ever before.

Q Why is that?

A It's because, I think, of the progress of science and the fact that if you're static you can have things dropped on you. If you are quick and moving, the enemy doesn't quite know where you are. If you keep attacking him, he can't drop bombs on you. If he did he might drop one on his own troops. Mobility is the thing.

Q What about holding a line somewhere in Europe? Is that impossible now?

A We can hold a line, certainly. An obstacle line. To cross an obstacle line they have to concentrate. And when they concentrate, you have a target for an atomic bomb.

Mobility: Prime Need

Q What about this idea of mobile islands, hedgehogs, and so on? Is that a useful approach?

A Mobile islands? That's a new one. Mobile hedgehog? I'm for mobility. Absolute mobility. That's the great danger, with modern equipment. When you clutter people up with things, they can't move. When I was staying in Yugoslavia with Marshal Tito in September, and he was talking about all the equipment he was getting, I said, "Don't lose your mobility! Keep it! Your safety lies in mobility."

In the scientific age of atomics, your danger lies in digging yourself in and having something dropped on you. Don't think that Korea is any training ground for the next war. It isn't. It's a completely static war, except for patrolling. The lessons from Korea will be very valuable for patrolling and digging and in how to avoid shellfire. But it's no training for the next war in Europe. None. That's my view.

Judging the Russians—

Q Field Marshal, there has been a lot of talk about 175 Russian divisions. Those divisions really don't concern NATO unless the Russians can put them in Europe with support to keep them in battle. They have pretty poor communications. When they get to West Germany, they are a thousand, two or three thousand miles from their sources of supply. What does NATO really have to face? How many divisions can the Russians send against West Europe?

A I think it would depend on whether they want to attack us without any warning and without any mobilization procedure. If they did that, they could move about 30 divisions.

We, certainly, could hold that, you see. That's easy. But if they want, they could have a much bigger build-up. They've got 175 divisions all around. But I never bother much about counting people's heads. I count people's ability, you see. I think there's far too much counting of heads. I'd say, over all, that when we're assessing the possibility of what this guy can do, we're rather inclined to think he could do much more than he could. We have difficulties, ourselves. What about his difficulties?

Q If it took him a month or two to put the larger number of divisions into Germany, by that time NATO would have reserve forces coming in, as well?

A I hope so. If not, we would deserve to lose.

The Human Price of Combat

MARJORIE VAN DE WATER

Research teams of scientists took instruments into the front lines in Korea to learn just what the strain of battle does to a man's body and mind

NOW for the first time scientists know what happens to a man's body and mind under the terrific strain of combat.

Taking their test tubes, needles, gauges and mental tests right up to the front line in Korea, they have learned something of what made one man come through with flying colors and distinction while another broke into uncontrolled sobbing or became a speechless, quivering wreck of a man.

Now that the fighting has stopped, it can be told.

Worst place for a man to be during combat is alone in a place of relative security. Sitting there, inactive, while buddies are shot down can shatter a man's morale and sanity.

Carrying a wounded friend back to where he can get help, only to find that he has died without ever reaching succor seems to be the worst experience that can befall a soldier.

It is strains like these and not the enemy's bullets, knives or bayonets that try men's souls the most.

The assessment of the human cost of combat was made by a research team made up of scientists from various fields. Included in the party of 13 were five civilians from the Operations Research Office of Johns Hopkins University, which sponsored the study under contract with the Army, five people from the Office of Naval Research, two scientists from the office of the Surgeon General of the Army, and one from the Naval Medical Research Institute.

Taking part were scientists from the fields of physiology, biochemistry, psychiatry, psychology, medicine and nutrition.

With their laboratory mounted on two jeeps and a trailer, the research team of 13 covered the central front and some

of the heaviest action for a period of seven weeks.

The strain of combat is strictly an individual matter, it was found. Two men fighting side by side, climbing the same mountain pathways, subjected to the same enemy fire, straining every sense to detect the close presence of the enemy, carrying the same weight of burdensome pack, eating the same diet, fortified by the same training and special knowledge and weapons, nevertheless are each in a private world of stress and strain. That is because it is what the situation means to the individual soldier that is important, not the external facts.

One man may fear death; it takes every ounce of his courage to go forward to-

ward the enemy. Every shell burst is a hideous climax of torture to this man. Another may be comparatively indifferent to death, safe in the confidence of divine protection or reassured by a strong faith in life after death. This man is not worried about a shell "unless it has his name on it." One man may be intelligent and well-trained and confident in his own ability; another may be new to the situation and distrustful of himself.

But no matter how difficult the situation faced by any individual soldier, he is able to stand up to it while "the heat is on." In no case observed by the research team did a soldier crack up mentally during actual combat. It is when



In these two jeeps and trailer, a research team of 13 scientists took their centrifuges, hypodermic needles and other laboratory equipment right up to the front lines in Korea to find out what the toll of battle is on a man's body and mind.

MARJORIE VAN DE WATER, a psychologist and staff writer for Science Service, was one of the editors (with the late Colonel Joseph I. Greene and others) of *Psychology for the Armed Services*.

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- ▶ **The strain of combat is an individual matter, affecting different men differently.**
- ▶ **Men can think better when the "heat is on."**
- ▶ **Men can stand up to immediate danger, no matter how serious; they "break" when urgent demands of duty let up.**
- ▶ **Men in combat lose adult white blood cells, for reasons the doctors do not yet know.**
- ▶ **Men in combat sweat profusely, urinate frequently; yet in spite of losing water they do not drink. Nor do they eat much.**
- ▶ **Getting men to eat and drink may be a new responsibility of combat commanders.**
- ▶ **Science may find a hormone or other ingredient that will immunize the soldier against physical and mental crack-up in combat.**
- ▶ **It takes five to twelve days for a soldier to recover from combat strains.**

the urgent demands of duty let up; when he has made the long trip back to comparative safety, particularly if he is carrying or aiding a seriously wounded friend and especially if the friend dies on the way; or when he must wait alone in a position of comparatively safety or wait, defenseless, under enemy artillery fire that a soldier may break.

The strain of combat does not paralyze the functioning of the higher brain centers, it was found. If anything, a man thinks better when "the heat is on."

STRIKING finding from the blood studies of men just come out of combat was a great shortage of white blood cells. The shortage is apparently due to a disappearance from the blood stream of adult white blood cells. Instead of 18 adult cells to one immature cell, the proportion was changed to three immature cells to only one adult. It is the adult white blood cell that battles for the life of an individual when an infectious agent enters the blood stream, so an absence of these cells could expose the soldier to danger from infection.

A similar shortage of adult white blood cells occurs in the blood of persons who have been very severely burned or who have suffered from such acute infections as a ruptured appendix.

However, in the case of the combat soldier, no one knows what has happened to the adult white blood cells. Does the stress of combat in some way act as a poison in the blood of the soldier so that the cells are destroyed in repelling this toxic invader?

Another striking finding was that the man in combat loses water from his body. This is only natural. The man in combat is scared. That means that he sweats profusely. He urinates frequently.

Yet in spite of losing water in these ways, the man in combat does not drink. It may be because he is just too busy to think about it, but the chances are that he has no particular desire for water under the circumstances.

As a result of the dehydration, the man in combat loses weight. He does not usually realize this; in fact, he may tell you that he gains at the front. It is true that he gains, but this occurs after he comes back from the attack or patrol, after his recovery from the stress of severe combat, when the body is again storing the natural supply of water.

THE man in combat or on a patrol does not eat. He does not find fault with the food provided for him; it is the man back a little way who complains bitterly when the food is not hot or when the diet is not varied enough. The man in contact with the enemy just has no interest in eating. Rather than walk a few hundred feet to where a hot meal is being served, he will stay in his bunker and nibble on "C" rations.

Men who make a shock attack on an enemy stronghold carry assault rations with them, but only a few eat any part of their supply even though the attack may last 16 hours.

They say they are "too busy," "not hungry," or that their stomachs are "weak." Some complain of nausea.

Failure to eat and maintain his nutritional well-being probably adds to the stress endured by the combat soldier. A man should be well fed if he is to maintain his peak resistance.

Getting his men to eat and drink would seem to be a new responsibility of the unit leader in battle.

Will it some day be possible to give a man a pill or an injection that will immunize him against a physical or mental crackup in combat? This is a question I put to one of the scientists of the research team, Dr. Stanley Davis of the Operations Research Office.

It will be possible, he assured me. However, the research team are not yet ready to recommend such a measure. It may be, he said, that taking a dose of some hormone would enable the soldier to stand up under strains that otherwise would cause him to break. But when such a fortified soldier did reach his breaking point, it might not be possible for him to recover. It may be nature's way of protecting the human organism to set a limit beyond which a man cannot drive himself. It will be necessary to know a great deal more than scientists know now about the human's ability to stand strain and to recover from it, before they are willing to recommend an "antistrain" shot in the arm for men going into combat.

IT takes much longer anyway to recover from combat strains than has been supposed. A couple of days back of the front line and "a good night's sleep" are not enough. It is more like 5 to 12 days before the soldier is back to normal.

It is now known that it calls for a delicate balance in the functioning of the body's defense mechanism to withstand stress. Links in the chain are the hypothalamus, "emotion center" of the brain, the pituitary, a small gland at the base of the brain, and the adrenal glands.

When a man is badly frightened or greatly angered, the hypothalamus is roused. It acts on the pituitary, causing it to secrete ACTH. This, in turn, acts on the adrenal gland, stimulating it to secrete the recently discovered compound F along with other hormones.

After a brief but very difficult encounter with the enemy, the pituitary apparently lets down on the job. When the soldier is given a shot of ACTH, supplementing the activity of the pituitary, the adrenals respond by increased activity. But after a prolonged period of severe combat, the soldier loses the ability to prod his adrenals into service. Then the ACTH injection no longer has effect.

GRIDDING THE SINGLE VERTICAL PHOTOGRAPH

MAJOR DANA L. THOMPSON

The engineers issue a note of warning about our previous article on this subject: it isn't accurate if extended beyond one grid square

GRIDDING the single vertical photograph by the proportional divider method described by Lieutenant Colonel John P. Remy in the December 1953, *COMBAT FORCES JOURNAL* is a good field expedient for the specific use to which The Artillery School is putting it. It is necessary, however, to warn against an implication that the extension of the single grid square into a complete straight-line grid covering the entire photograph is valid.

Limited to one grid square the system will work to a practical degree of accuracy, but the determination of this grid square cannot be extended to give even fairly accurate determinations in adjacent grid squares. The implication that it can is present. This might lead some readers to believe that the entire photo can be gridded by the Remy method. It can, but not accurately and rapidly. For accuracy it becomes necessary to "restitute" each grid square separately; a slow process which would result in a series of adjacent quadrilaterals, but not, by any means, a straight-line grid. For rapidity the Remy method is applied to one grid square and then extended, inaccurately, by straight lines to form a grid. In the example (Figure 3 of Colonel Remy's article; see cut), grid line 36 is out of position nearly 100 meters at a distance of less than 500 meters from the original grid square. This is something less than accurate. I have drawn in broken lines to show the position of the grid squares when resected individually.

Photogrammetrists have striven for years to devise a means by which single photographs can be, in effect, gridded accurately and rapidly. So far no one has succeeded. On a map the locus of points along a grid line is a straight line; while on a photograph it is an irregular line; not even a single-radius curve. The irregularities are resultants of several factors: the curvature of the earth; the aberrations of the lens; the perspective effects

of relief; the tilt in the photo; and the instability of film and paper.

The most accurate rapid way to "restitute" any aerial photograph is by optical restoration, a process which cannot be accomplished in a photo-reproduction center and certainly not with artillery headquarters equipment. The next most rapid and accurate method is radial-line plotting, but this, as Colonel Remy says, is a slow and awkward preparatory process.

Using the same photographs and map used by Colonel Remy, the illustrations show the inaccuracies which occur when a single grid square is located by the Remy method and then used as the basis for extending the grid to the entire photograph. The terrain shown in the photographs is relatively flat. When rugged terrain is encountered the errors will be much greater.

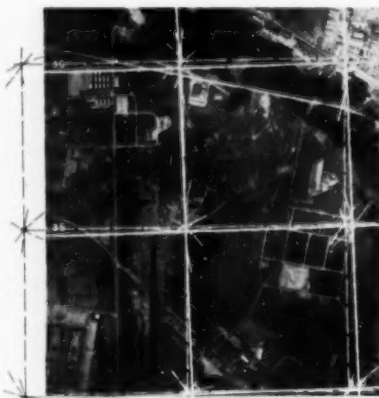
Where the only requirement is to locate a point by map coordinates the Remy method will be helpful in identifying the point, but it will require the use of a large-scale map and a large-scale vertical aerial photograph. The lack of either of these will result in frustration.

The statement in Colonel Remy's article that "a large error on a 1/25,000 scale becomes noticeably smaller when

'blown up' to the 1/5,000-1/12,000 scales typical of our photos" is so obviously incorrect as to require no comment. How can an error be reduced by enlargement? Given the large-scale map and the large-scale photo the point desired can be picked by inspection of the photograph; and the coordinates of that point read from the map within the limits set by artillery (within 50 yards) without resorting to the Remy method. In terrain differing from the relatively flat area in Colonel Remy's photographs other factors will be introduced affecting the accuracy of the method. Abrupt changes in elevation, as in areas of rugged relief, introduce two upsetting factors: (1) changes in the scale within a single aerial photograph; and (2) displacement of relative position of points.

FOR these reasons, mainly, The Engineer School has been careful to modify instruction in the use of aerial photographs as map supplements as in the Remy method, or as map substitutes where no map of the area is available. The Point Designation Grid was developed, as described in Change 2 to FM 21-26, to provide a means for the positive identification of points for targets, etc., without introducing the errors encountered when attempting to scale distances or determine azimuths on single aerial photographs.

In summation, it is admitted that although the Remy method will work as a device for determining the coordinates of a point within a 1000-meter square plotted as described, it cannot be used for adjacent squares without further proportional plotting. The limitations of the Remy method prevent its use for the constructing of grid systems at the photo-reproduction center for application to other photos; and the "template" system is inadvisable because each photo and even each grid square within a given photo will be different. The templet system is only applicable to the prints from identical negatives. This limitation would necessitate the construction of a plastic templet for every different photograph, an uneconomical requirement.



This was Figure 3 of Colonel Remy's article. Major Thompson has drawn in the broken lines to show the position of the grid squares when resected individually. The solid lines are Colonel Remy's.

MAJOR DANA L. THOMPSON, Corps of Engineers, is on duty at The Engineer School.



If you are assigned in the Tokyo area you probably will shop at the modern commissary on Washington Heights

JAPAN

Land of delightful shops . . . exotic food . . . strange sights

MAJOR MARCO POLO

WHEN you are assigned to duty in Japan you can expect a long wait for your dependents. A soldier is rarely assigned to "Japan" these days. The normal assignment is to U. S. Army Forces, Far East, and from there it's on the knees of the Theater G1 whether you wind up in Japan, Okinawa, or Korea. Most of us find ourselves in Korea.

So before you leave for USAFFE you would be wise to settle your family so they can stay put, if necessary, until you return to the States. Japan and Okinawa are the only spots in USAFFE that you can have them with you; and in any case it will be months before they can join you. The minimum wait is twelve months after you arrive in Japan and are assigned before your dependents will join you, and you can expect a delay of up to 18 months.

Japan is somewhat smaller than California, a string of four islands stretching 1300 miles down the Asiatic coast and ranging in climate from near-arctic to sub-tropic. The largest of the islands—Honshu, upon which Tokyo is located

AROUND THE BASES—3

—is about the size of Kansas, but the population is 63½ million, more than 30 times that of the Sunflower State. In all, 85 million people live in Japan.

As a result of the Japanese peace treaty of 1952, the situation of soldiers and their dependents in Japan has changed drastically. Where once we were there as members of an occupying force, today we are in Japan as protectors, invited by a friendly government.

Japan is close to the eastern edge of the Iron Curtain—from the northernmost point of Hokkaido you can look across with your naked eye at Russian sentries on duty on Soviet islands—and the Communists would be delighted to take Japan over as both an Asiatic and Pacific stronghold.

Most American soldiers now on duty in Japan get there from Korea. Tours in the Far East are computed on a Constructive Months Credit, or "point" system, which gives Korea troops shorter tours than other USAFFE troops. You can get out of Korea before you have

pulled a full tour if you go to Japan, and many soldiers do. As far as your dependents are concerned, though, there are two catches to this system: you have to be assigned in Japan before you can get a quota for your dependents; and you have to stay in Japan a year after they get there, no matter how long you may have been in USAFFE.

DEPENDENTS' shipping priorities are based strictly on availability of housing, which is scarce; thus the delay of a year or more. Dependents, like their sponsors, travel to Japan usually by water but sometimes by air. Air travel is preferred by most, but the ocean trip can be very pleasant. The trip by air takes 36 hours or a little less, leaving normally from McChord Air Force Base, Tacoma, Washington, if it is military air transport, or Seattle if commercial. Traveling by boat and leaving from either Seattle or San Francisco, the trip takes from 16 to 19 days. Airplanes land at the Tokyo airport and ships dock at Yokohama.

Availability of quarters depends largely on where you are assigned. The Tokyo-Yokohama area is pretty well built up with government housing; other areas

MAJOR MARCO POLO is the collective pseudonym of the authors writing this series.

MARCH 1954

27



Like the super-markets back home, the Washington Heights commissary displays enticing rows of canned foods.

such as the island of Kyushu are not so fortunate. But in either case the housing is good, and is better furnished than government housing in almost any other place in the world.

Nearly all quarters are in Army developments, and are very much like Stateside quarters. During the occupation there were many so-called "United States houses," buildings taken over from the Japanese. Most of these have been turned back to the original owners. Some of them are now for rent on the open market; prices start at about \$125 a month and run up to \$200 or more.

MOST Army folk live in American-built quarters in Army posts or settlements. Some live in single houses (ranking officers and people with large families) but most have quarters in two- or four-family units.

The furnishings are above average. Most of them were made by the Japanese during the occupation, and are complete down to rugs and lamps. The lamps, actually, are pretty sparse and some of them are far from pretty. You will need your own linens. Cooking utensils are normally furnished, but most people want their own.

You will be wise to take your own beds. Quartermaster beds in Japan are just as hard as they are anywhere else.

Quarters are equipped with stove and refrigerator; small electric appliances are on sale in the Post Exchange and on the local market. If you want to take your own they will work all right, except slowly. Japanese current is 100 volt, 50 cycle, compared with the 110 volt, 60 cycle standard in the United States. Don't bother with electric clocks; they will run slow and drive you crazy. Elec-

tric phonographs will need conversion, a simple operation that can be performed either in the United States or in Japan. Toasters, coffeepots, irons and so on will work all right.

Don't take your automatic washing machine, or your food freezer. Your washer will not work properly on the slow current. Older, wringer models will, though. As for the freezer, it will be at the mercy of the uncertain power situation. Japanese current fluctuates at best, and since the end of the occupation and attempts by Communists to dominate the labor movement there have been frequent strikes and resultant power failures. Your freezer would simply spoil food for you.

You will want your radio, which will work all right after conversion, but don't bother with your television set because the only TV is Japanese, and the two stations now telecasting are only on a part-time basis.

Most of your household shopping in Japan will be in the commissary and Post Exchange. This is particularly true of food, because Japan does not produce enough food to feed her own people, and also because vegetables are not produced under sanitary conditions satisfactory to Americans.

THE commissaries have American canned and frozen foods, as well as dry staples. Some green vegetables are available at irregular intervals from the Quartermaster-operated farms. Meats are generally frozen, with the exception of Japanese beef, which is becoming available in steadily increasing quantity, and which is excellent. Choice of meats is generally good except for cold cuts and luncheon meats, which are in short sup-

ply and limited choice.

There is an American-operated milk reconstitution plant in Japan which converts powdered milk into whole milk, and frozen whole milk is also available.

The Post Exchanges are able to fill most normal needs for simple things like toilet articles, pots and pans, uniforms and casual clothes, but they suffer the weaknesses of Post Exchanges everywhere. The clothes all look the same, they are short on children's items, and the cosmetic selection is sparse. During the occupation there were huge Post Exchanges at Tokyo and Yokohama, where you could buy almost anything. Now that the peace treaty has been signed, those department store operations have been closed.

So you will need your Stateside mail order catalogue, or an understanding with the personal shopper in your favorite department store, to carry you through your tour in Japan. Shoes for the children, cosmetics and party dresses and frilly stuff for the women will be the most frequent items you will be importing from the States.

THE ladies are in luck, because there are some perfectly lovely fabrics on the local market in Japan, and many Japanese women are wonderful seamstresses. Japanese seamstresses have little imagination about Western styles, but they are wonders at making a copy of the dress on the cover of *Vogue*, for example.

Soldiers can now wear civilian clothes off-duty in Japan, and you can buy mufti in the Post Exchange. For variety you can use Japanese tailors, who are excellent and have fine cloth at their disposal; but you have to watch them closely because their idea of how to cut a suit runs to wasp waists, peak lapels, and similar "sharp" tailoring.

In planning your wardrobe for Japan, it helps if you know exactly where in Japan you are to be stationed. Japan has regular four-season weather, but it varies sharply from Hokkaido in the north to Kyushu in the south.

There is a good deal of social life in Japan, so the ladies will need some formal wear, a few dinner dresses, and a good selection of cocktail dresses. Cocktail dresses, in fact, are the most-used dress-up clothes for women. Men can get along in uniform, of course, but will probably want to take both summer and winter dinner jackets.

SHOPPING in Japan can be a delight. Besides the fabrics, there are enamel, lacquer and brassware; gold, silver, cloisonné and pearls; wonderfully delicate

little carvings which have taken years to complete; and some of the finest china and porcelain in the world. The biggest problem in shopping in Japan is in not buying half the stuff in sight. If you shop carefully, compare prices and make an effort to learn something about the various crafts, you can bring things back from Japan that will be sources of pleasure to you for years.

Beware of Japanese furs. There are very few good furs in Japan, and many a woman who fell for the "Japanese mink" spiel has been miserable with a coat that looked rather like yellow cat, striped with a paintbrush.

Most people find browsing through the shops, on the Ginza in Tokyo, or along the little side streets of smaller towns and villages, a wonderful way to spend pleasant hours and at the same time learn something about Japan. But it is far from all there is to do. Recreational facilities in Japan are almost unlimited.

There is skiing in the north, fishing in the mountain streams and volcanic lakes or deep-sea fishing anywhere along the coast. There are many fine golf courses, and all of the military installations supply the usual tennis courts, bowling alleys, and so on. Hunting is limited, but thousands of ducks stop over in the rice fields, making fine shooting during the season. Shikoku is known as the "Riviera of Japan," and its beaches are justly famous.

With customs strange to the Westerner, and a history of centuries of devotion to the fine arts, Japan is a sightseer's paradise. There are hundreds of parks, shrines and public buildings that are beautiful and have colorful histories. In addition there are a number of holiday spots where guest hotels are either still operated by the Army or have been recently enough to suit American tastes. They are fine places to get the flavor of Japan without such discomforts (to many Americans) as sleeping on the floor and eating from a table four inches high.

EATING, by the way, will be another pleasure to you in Japan. While it's not recommended that you buy raw food on the open market, there are many excellent restaurants which cater to Americans, and actually if you like rice and sea food you can eat almost anywhere so long as you eat no raw vegetables. You will find that the best cooking in Japan, as in most of the Orient, is Chinese (among the handful of "best restaurants" in Tokyo, one is Chinese and one French) but Japanese cooking is interesting and generally good. Beware



Winter sports are an attraction for service people visiting the Fuji-View Special Services hotel at Hakone.

of one thing, though—they serve hot *sake* with meals, and it is considered bad manners to let a guest have an empty glass. Despite the fact the rice liquor is served in tiny cups and has a pleasantly mild flavor, it has a high dynamite content. Take it easy.

BECAUSE there is so much to see in Japan, you will want your automobile. The port will give you specific instructions about readying it for shipment, but be sure it is in top-notch shape before you leave.

Traffic moves on the left in Japan, and slowly. The speed limits are well below 30 miles an hour throughout the



Buddha is an attraction for sight-seers visiting Kamakura.

islands. But a car is almost a must for an American. There are few buses, and they are for the adventurous and strong of heart. Japanese railroads are good, although not up to American standards in accommodations, and sometimes it's fun to use them. But rail travel is restrictive, and in Japan limited in where it can take you. If you do make a train trip remember that Japanese trains stick precisely to their schedule.

All schools are run by the Army. In areas where there are few American children, schools are not what they are in the United States. Where there are only two or three children of high school age, for example, correspondence courses or home study plans are used. But all the education is accredited by the Association of American Colleges and Universities. Be sure to take transcripts of your child's school record with you, to avoid delay in getting him registered in Japan.

YOU will probably have servants in Japan; every American does. During the occupation, servants came with the quarters, but now they are private contractors on the open labor market. Wages have gone up since the occupation ended, but you can still get good household help for from \$20 to \$30 a month.

Japanese servants are excellent. They are loyal and hard-working, and by now most of them have worked for Americans before, and speak a little English. But take it slow until they get used to you.

There will be frustrations. Japanese girls are terribly sensitive, and if you are short-tempered you are apt to throw them into a complete tizzy.

In dealing with your servants, if you speak quietly and distinctly, show them how you want things done by running through it with them once or twice, and don't try to keep them from spoiling your small children, you'll get along fine. Children enjoy an honored place in Japan, and all adults seem to feel dedicated to making all children happy. You can't change it, your children will love it, so you might as well live with it.

JAPAN is a strange place, by Western standards, and only recently an enemy of the United States. But now it is one of the bulwarks in the defenses against communism, and its people have evidenced a strong desire to be our friends. If you accept them as friends, and recognize that customs which seem strange to you were moulded through centuries of living on a crowded island, you can get pleasure and education from a tour in Japan.

This Is Logistics

As a bullet cannot be sped to its mark without a gun and propellant, so neither can a fighting unit defeat an enemy without a logistical force

COLONEL EDWARD E. BENSON

A GUN without a bullet and propellant in the chamber is not a weapon. It is the combination of the gun, propelling charge and bullet that makes a weapon. Making the right ammunition available to the user of the gun at the right time and place is one of the functions of logistics.

In the early days combat forces largely lived off the land. However, today the implements of war are highly technical and all combat and service forces must be supplied with the necessities of life and the tools and materials they need to perform their various missions. Furnishing these needs at the right time and in the needed proportions is the mission of logistics.

Logistics is not an end in itself but a means to an end, namely, the success of the combat forces. Strategic planning must consider logistical requirements. Subsequent tactical plans must also include logistical planning. As troops are committed today, so also must their requirements be committed. Without tools and supplies combat forces cannot do the job assigned them.

The principle of logistics is not new. It is true that in the past some battles, and even some campaigns, have been won with little consideration of logistical support. Nevertheless, other things being equal, the chances of success rest with the forces having the most competent logistical support. History has repeatedly proved this contention.

Logistics then is important. So we ought to know what it is and who is responsible for its performance.

First, let us try to visualize what constitutes the complete logistical operation. The mission of logistics is to sustain the military force with its physical and operational needs. These are many and varied. They can be summarized as supplies of all kinds and the various types of services, such as hospitalization, evacuation, transportation, communications, construc-

tion and maintenance. Obviously the type, volume, and characteristics of such needs are subject to the circumstances and operations of the force being supported. Therefore, the first step in logistical operations is to determine what is required and how much. Secondly, after requirements have been determined, they must be obtained. Finally, they must be distributed where and when needed. Logistics, then, consists of three phases, namely: determination of requirements, procurement, and distribution.

TO determine who is responsible for and involved in logistical operations, let us start with the combat soldier. He determines his requirements by being aware of his shortages. He is told where and how to get clothing, equipment, food and weapons. To get what he needs he follows his instructions. However, he is a user and consumer and is not involved in distribution. The same applies to a group of soldiers operating a single tool, such as an artillery piece or a tank, or engaged in constructing a bridge or a railroad. The group is also a user and consumer and is not involved in the task of acquiring and distributing. But its unit commander is. He must determine the group's requirements and distribute what he gets within his organization. In turn, each higher commander has the same responsibility for all the forces under his command. Therefore it can be said that logistical responsibilities extend from the nation itself to the commander of the lowest administrative echelon of the military forces.

Logistical support moves from the higher commands to the lower. This includes planning, management and operations. It also includes supervision and control over such activities, plus constant cognizance of the status of the logistical situation. Operational plans should be based on the capability of logistical support available to sustain them. Obviously there are many times when it is necessary to take a calculated risk and go ahead even though available logistical support is questionable. However, the risk must

be recognized for what it is and justified.

It has often been said that there are too many persons and facilities involved in logistical operations. There have been charges that logistic forces are built up at the expense of the combat troops and that this weakens the fighting forces. If and where this is true it should be corrected. But there have been times when combat troops were weakened by the lack of competent logistical support. Napoleon failed in Russia because his combat troops lacked sufficient logistical support. Wellington was successful in Spain because he committed his forces in accordance with his ability to support them. General Patton's Third Army roared through France using gasoline and ammunition and bridges and many other things furnished and delivered by service forces. His success shows what an important element logistics is and how it contributes to fighting effectiveness. Logistics is utterly essential to an army. This being so, a competently and carefully designed logistical team must be part of each military organization.

WE said earlier that a weapon is a gun, propelling charge and bullet. If the impact of the bullet on the target could be gotten without the gun and propellant, then the gun and propellant would be unnecessary. However, up to the present all bullets require some sort of launching device. Every element of the structure of the gun and the cartridge is scientifically studied, analyzed, evaluated, and justified. The gun is synchronized in every feature and detail with all the requirements needed to discharge the cartridge and make the bullet effective as intended. The bullet is the key element. The gun's barrel has the capacity necessary to contain the bullet and the strength necessary to contain the pressures which eject it. The magazine has the required storage space and the facilities which move the cartridge and bullet into firing position. The criterion for the design of the gun, propellant and bullet is their capability to fulfill the requirements of the bullet to accomplish its designed mis-

COLONEL EDWARD E. BENSON, Corps of Engineers-USAR, lives in Providence, R. I.

sion. Thence the impact on the target is the result of the combined and related functions of all three elements. Therefore the combination of all those three elements is *the weapon*. Based on this concept the gun and the propellant are in reality logistical elements of the weapon.

From this point of view the composition of the weapon can be likened to the composition of a military force. In principle the relationship of the gun and the cartridge to the bullet is similar to the relationship of the logistical elements of a military force to the combat elements of it. The route of approach toward determining the design of the logistical elements of a military force is, in principle, substantially the same as for the weapon. The method of determining what is necessary logistically to attain and maintain the designed capability of a military force is to determine the requirements of the key elements of the force—the combat troops—and then to determine what is necessary to make such requirements available.

In order to have their designed impact value, each combat unit must be complete in accordance with its table of organization and equipment (T/O&E). Such a table is actually the plan and specification of the unit. It includes persons, arms and equipment, and is actually the design of a specific capability.

Even though a combat unit has been completely equipped and supported with all the needs of its organic structure, it is still not sufficient unto itself. It may be given a mission which is in accordance with its designed purposes, but the capabilities of the enemy and the methods of modern warfare may make the accomplishment of that mission dependent upon additional support emanating from, and controlled by, higher commands. This means that a military force must have required elements, both combat and service, that accomplish that support.

In the service realm, such additional support for the combat troops consists of furnishing all required additional transportation, both land and water; required construction such as ports, airfields, bridges, roads, railroads, buildings, power facilities, plus the repairing and maintenance of them; clearance of terrain barriers and hazards, or furnishing means of overcoming them; furnishing means of communications; evacuation and hospitalization; required maintenance of equipment; producing and furnishing maps; and many other similar services.

From the logistical viewpoint the requirements of the combat forces consist

of all the required sustenance and maintenance of each unit in accordance with its design and purpose, plus all the service needs for the support of its operations and missions. This is the basic criterion for the design of the required logistical forces.

Most certainly, effective design of the logistical organization cannot be based on a ratio of the number of service troops supporting one combat soldier. Nor can any apparent enemy ratio of the volume of personnel, which they may have supporting one combat soldier, have any relationship with our logistical requirements. We have weapons that the enemy does not have. These affect the ratio between combat forces and their required logistical support. The approach toward the design of our logistical forces must be realistic. Each required function must be available and fully competent in all the aspects of its purpose. It applies to the entire logistical cycle.

THE determination of requirements is of first importance. It involves a complete, timely, qualified, and constant understanding and knowledge of all the present and prospective actual needs of the military force concerned and its activities. It applies to all echelons of command.

Then all subsequent action for the procurement of those needs must also be complete, accurate, and timely. All factors which affect the availability must be known, understood, considered, evaluated and planned. This involves such factors as the time required for planning, requisitioning, advertising, negotiations, accomplishing contracts or purchasing, manufacture, production, delivery, design of facilities and installations, construction, transportation, assemblage, and anything else which would effect the materializing of the need at the source from which it originates. This also applies to all echelons of command in accordance with the established procedures.

Those needs must then be distributed. All the tremendous capability of our nation to produce our military needs would be wasted if our armed forces didn't get them when they need them. Distribution is of major importance and a true concept of the scope, involvements, and requirements of the distribution mission must be fully understood.

Although distribution applies to all logistical needs, a typical supply operation is the best way to illustrate distribution.

In a theater of operations the area of distribution, for supply, is from the port of debarkation to the most forward troops in the combat zone, and for the full

breadth of the theater. This area may not be great at first. However, as the combat forces progress, the area of distribution expands accordingly. Such expansion can then be to the extent of a large part of a continent. The size of the force which would operate in such an area is obviously dependent on the situation and circumstances. Future technological developments may revise our present concept of the frontage and depth capabilities of military forces. However, let us think of a theater with five field armies committed in the combat zone. Consider those field armies and their supporting forces as committed in a theater such as the European Theater of World War II. Then consider that approximately 100,000 tons of supplies must be distributed daily to all those troops. This gives us a vision of the scope of the supply mission.

However, we must further consider that those 100,000 tons consist of over 80,000 separate end items, each of which has a specific purpose and destination. The right item must be delivered to the right location. In addition to the end items there are the spare parts pertaining to them. In volume of items the spare parts are many times that of the basic item. Troops in combat are generally on the move and so the supplies have to be handled many times by the logistical forces before the using units get them. Therefore, some 300,000 tons of material must be handled in order to get those 100,000 tons to the troops daily.

All three phases of the logistical cycle—determination of requirements, procurement, and distribution—are equally important. A deficiency in any one will affect the capability of the force supported. All three apply to all logistical operations such as the provision of supply and all required facilities and services. A large proportion of the functions and operations call for specialist training and "know how" involving professions and trades. The quality of organization and the training of the logistical forces are important.

LOGISTICS today is big business. It is an essential and major element of the strength and power of a military force. Like big business it requires competent and experienced management to make it effective. Today a military commander has actually a dual role. He is commander of his troops and their operations, and at the same time he is a business manager. In this technological era he must be the latter in order to evaluate and materialize the designed capability of his forces.

The Month's Comment

Butter and/or Guns

EXCERPTS from two recent news stories:
"In the fiscal year 1953 we spent \$16.2 billion on the Army. Under the 'new look' budget the Eisenhower administration plans to spend only \$10.2 billion on Army defense during fiscal '55."

—*The New York Herald Tribune*,
4 February 1954

"Government-held farm surpluses are piling up at such an 'alarming' rate that the Commodity Credit Corporation may need more than the record 8.5 billion dollars which the Eisenhower Administration has requested to support farm prices."

—*The Washington Post*,
5 February, 1954.

Catch 'em young—and Sell 'em hard

THE Army is the service of the reluctant volunteers. Not in every instance, of course, but in an alarmingly high proportion of cases, the Army is last choice for prospective members of the armed forces. That's not news, but we must face it.

We have heard many explanations of this not-very-complimentary situation, some of which stand up under examination and some of which are as believable as a Communist peace feeler.

It isn't because the Army, even the Infantry, is too tough for America's present generation of young men. Our Marine friends, whose boot-training is the next toughest thing to a 49-cent steak, and who point to excessive combat losses with something suspiciously like pride, don't seem to have too much of a problem in attracting recruits.

It might be the lack of sex appeal in the uniform. But a well-pressed, well-polished soldier is a much happier sight than the average college kid in dungarees and checkered shirts, something they wear by choice. And the Air Force, before it went to blue, didn't seem to have much trouble.

Some may say it's because the Army represents an anachronistic service and isn't hep to the jet age. We'll argue this one, pointing to the battleships and Marine infantrymen and Air Force food-service specialists on the one hand, and radar, guided missiles, tanks, helicopters and a few other items on the other.

Some say glamor. And that might be it.

We read of the Air Force flying young teen-agers about the country as guests of Strategic Air Command. The ten-year-old son of one of the editors has been to the Washington Navy Yard twice, to go through a submarine and a destroyer. We read of Representative So-and-so returning from a cruise with the Navy. And so it goes.

Sweet are the uses of publicity, if we may garble a phrase. The Army just doesn't take advantage of what it has. There is a planetarium at Fort Belvoir; it appears school children visit it in organized groups, but we have never seen anything in the Washington newspapers about it. The last time we looked, there were some light tanks at Fort Myer. If any young teen-ager has been invited to look at one of them, much less ride in one, we haven't heard of it.

Fort McNair has some of the snappiest retreat formations that ever gladdened the heart of a soldier. Have any teen-age groups been specifically invited to see one of these parades? Is there a regulation that would forbid the High School Cadet of the Week from pulling the lanyard on the evening gun at any post? If we remember our boyhood days clearly, that would be a thrill for which we would have been eternally grateful to the Army.

It isn't fair, of course, to point the finger only at the posts near Washington, but those are the ones we notice almost daily. Does Fort Bliss (remembering the disproportionately large number of Spanish-Americans among Medal of Honor men) let the high school kids of El Paso feel that the Army is interested in them? Who, besides soldiers, have ridden in the BARC? We don't know—we're asking.

Has any group of high school (or college) ROTC cadets ever been invited to eat in a nearby army mess hall? As a young cadet we would have gladly paid for both the meal and the transportation.

We could go on and on, but we believe we have made our point.



An Army unit on parade in Moscow. The two stripes on the shoulder indicate the men in the front rank are corporals

THE ARMIES OF COMMUNISM

LIEUTENANT COLONEL JOHN BAKER WHITE

In the West, Marshal Bulganin can muster four million land troops of varied quality and reliability and armed with weapons that range from very good to not so good

THERE can have been few subjects of world interest in the past eight years on which there has been more speculation, calculation and straight-out guessing than on the size, equipment and efficiency of the armed forces of Soviet Russia and her satellites. That there should be guessing is not surprising, for they are like a weapon inside a plastic cocoon on a laid-up battleship or plane. They can be seen in Berlin, in Austria or across the barbed-wire no-man's land of the Iron Curtain frontier belt, but

seen and appreciated only through the plastic cover spun about them by close to one million security troops.

But for all that it is possible by years of patient study, constant research, checking and re-checking of reports, to build up an accurate picture of the Red armed forces. That given in this article is based upon information that has taken four years to collect, married to nearly thirty years' continuous study of Communism.

The Red forces deployed along this line and behind it fall into five main groups. They are:

(1) The first-line troops of the highest quality, namely, the armored, motorized, artillery, guards-infantry and parachute divisions of the Soviet Army, with their supply units. The probable strength is about 1,400,000.

(2) The second-line infantry divisions and horsed cavalry brigades, many of them from the Caucasus, and Asiatic Russia. Officers and men are of good quality, well trained but restricted in their mobility by being mainly horse transported. They number about 1,200,000.

(3) The security troops, which include gendarmerie, railway police, frontier guards, field security police, and the guards of penal settlements. They are the Praetorian Guard of the Soviet State, with executive authority over all other armed forces. Distributed at key points in the Soviet Union and occupied territory, they total not less than 700,000.

(4) The armed forces of the satellite powers. Varying greatly in training, the quality of their equipment, and probably in a time of trial their loyalty to Communism, their strength has now risen to some 800,000.

(5) The forces under the command of the Fifth, or Military, Bureau of the Cominform—the secret armed formations of the Communist parties of Western Europe. There are also, in terms of hot-cold war, the Red partisan forces in Malaya and Indo-China.

It will be seen that excluding this last category, and the huge Chinese and North Korean armies, Soviet Defense Minister Marshal Bulganin has land forces in the West at his disposal totaling over 4,000,000. There are also 800,-

LIEUTENANT COLONEL JOHN BAKER WHITE, British Army, retired, has been a student of Communism for almost thirty years and has devoted a large portion of that time to a study of Red military forces. In 1928 he wrote *Red Russia Arms* and since 1945 has written *The Soviet Spy System* and *The Red Network*, all published in Great Britain. During the Second World War served in Military Intelligence. He had been a member of the Territorial Army in the London Rifle Brigade from 1934 to his retirement in 1945. He was elected to Parliament after the war, but resigned in 1953.

A glimpse at the Western satellites is not impressive



Hungarian Hussars . . .



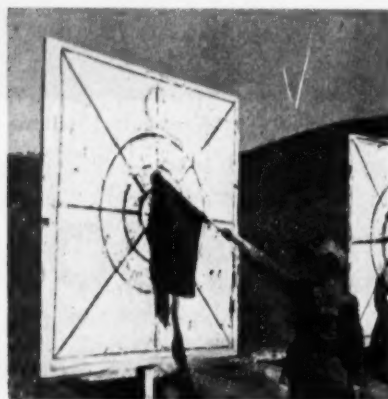
Czech Communists on parade . . .

000 men in the Red Air Force and 600,000 in the Navy. It should be noted that included in the 700,000 security troops there are the Border Guards, Internal Security Troops and Convoy Troops, not at present under the Defense Ministry.

THE Soviet order of battle is based upon sixteen commands, nine of them in the Soviet Union. The main purpose of the present deployments, so far as they can be ascertained, would appear to be to add strength and support to the cold war, and not to be preparation for an early hot war. Certain of these deployments, notably those opposite the Bering Strait, in the vicinity of the Baku oil fields and between Berlin and Germany's



East German People's Police on parade



Albanian soldiers on the range . . .



Poles take 10-minute break

eastern frontier are normal reactions to Russian bred-in-the-bone fear of attack from the West. That fear is real, and dates from Tsarist days.

Two years ago there were some fourteen divisions that had been stationed in Southeast Hungary since the spring of 1948 as a "reminder" to Marshal Tito and as support for the special brand of the cold war then being conducted against Yugoslavia. This force seems to have been reduced to about eight divisions. One of the armored divisions formerly in this area was identified recently on the Turkish Asiatic frontier, another was mentioned in a broadcast as being part of the Moscow garrison. The remainder seem to have been distributed in Germany and Poland to strengthen

the substantial forces behind the line of the River Oder. The events in Berlin on 17 June showed that at least four full-strength armored divisions are stationed within a radius of sixty miles of the city.

Today it is estimated that Russia has a minimum of 170 divisions which include 15 motorised, 20 mechanised and 30 armored. The positioning appears to be as follows:

Divisions	
East Germany	30
Austria	2
Poland	} 12
Hungary	
Rumania	} 61
U.S.S.R. (facing the West) . . .	

The 61 divisions referred to in the U.S.S.R. are distributed in the six military areas of Leningrad, Riga, Minsk, Kiev, Kharkov and Odessa. To this total must be added at least 45 antiaircraft and artillery divisions, making a total of 215 land divisions in all.

Length of conscript service varies according to category from two years for ordinary soldiers up to five years for specialists and security guards. What can only be a rough guess based upon population statistics, would put the annual call-up at about 750,000 men. There is no evidence that the Red Army, as distinct from the satellite forces, has been increased in numbers during the past three years—the accent has been on increased efficiency and more equipment rather than on more men.

THE position of the Far Eastern Red Army, which certainly numbers not less than forty divisions, with an average strength of 10 or 12 thousand and a high standard of training, is different. Recruited almost entirely from Asiatic Russia but officered largely from the West, it has been maintained at maximum strength for many years. Not even during the desperate days of the Battle of Stalingrad and the German drive towards Moscow, when trained manpower was so desperately short, did the Russian high command draw upon the Far Eastern Army. Today it has a dual role. To be on the watch for "Anglo-American imperialist aggression" and to act as a reminder to Mao Tse-tung that "national" Communism must not be carried too far. It has also the role of providing training cadres to the Chinese Communist forces.

In estimating the number of Russian divisions it is important to remember that they are not all of a standard size. According to Lt. Colonel Kyril Kalinov, a member of the Soviet General Staff who escaped to the West, an infantry division numbers 11,000 men, a motorized divi-



The JSU-152 self-propelled 152mm gun-howitzer

sion 13,000, and an armored division 10,500. Armored divisions, particularly on home stations, are sometimes kept at a strength of about 9,000, but experienced observers say that the armored divisions moved into Berlin to quell the June 17 demonstrations appeared to be at full strength.

There can be no doubt about the high quality of the Red land forces, after five years of war and eight years of tough cold war training and battle readiness.

Nonsense stories die hard, and a great deal of nonsense is still talked about the bad discipline of the Red Army. The truth is that every indication is that its discipline is excellent and ruthless action is taken when it shows signs of being anything else.

THERE is no doubt at all that over the past three years the high command of the Red Army has made an all-out effort to improve its standard of equipment, especially in the armored divisions. The general tendency since the war has been to concentrate on weapons giving the maximum defensive fire power. The "Stalin" super-heavy tank is an example of this tendency, for although it has probably greater fire power than any other armored vehicle, to travel any distance it must have an outsize transporter which, owing to its great weight, could not be used on bad or war-worn roads. The improved T34 tank, which has better forward armor and a new system of track-linking, is the mainstay of the Soviet armored divisions, whose lighter vehicles are the Russian model jeep and the Soviet version of the White scout car.

In artillery the tendency is towards greater fire power at the expense of mobility. The heavy cannon now in full production at the Gorki ordnance plant has to be moved in three units—mount-

ing, breech and barrel, each towed by a special heavy tractor. The artillery experts, V. G. Grabin and F. F. Petrov, have applied the Gerlich tapered barrel principle to producing an improved model of the German long-range gun used to shell the British channel coast during the recent war. Artillery research and training, including guided missiles, have a high priority in Russia.

As to the rate of production of armored vehicles and artillery, the output of Soviet plants is not less than 5,500 tanks and self-propelled guns per year, and about 10,000 armored and scout cars.

The British War Office estimate is that there are 25,000 tanks and SP guns with the Red Army, and an equal number of older but serviceable vehicles in reserve parks. As to artillery, the annual output is probably about 30,000 and ammunition output not less than 24,000,000

rounds per year. In 1944 it was over 240,000,000 rounds including air bombs and mortar bombs.

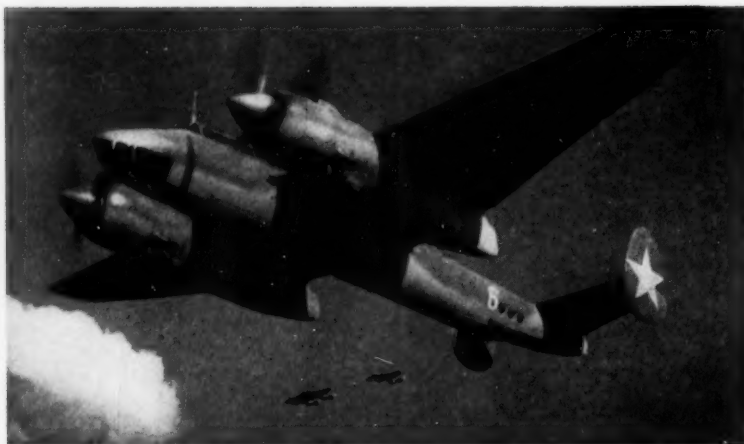
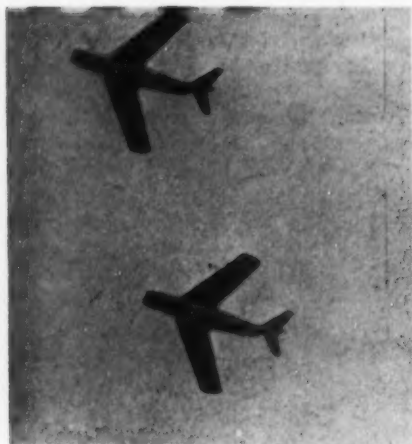
About three years ago the Kalinin Taman mechanised infantry division was converted into an experimental "storm" division designed for swift and deep penetration into enemy positions, modelled on General Patton's historic thrust across France and Germany. Its equipment included SP guns, rocket batteries, large numbers of motorcycle troops armed with light machine guns, and attached formations of rocket-firing aircraft. There is reason to think that the experiment was a success and that other divisions have been converted to this special role.

THE estimates of the strength of the Red Air Force have varied over a very wide field. The Soviet Air Force is not an independent arm like the United States Air Force or Britain's Royal Air Force. There is a tactical or army air force, organized in air regiments, divisions and corps and subordinated to the local Army command, as well as a naval air arm, and these two exist to support military and naval operations. The force of fighters and interceptors for home defense, on the other hand, comes under the Air Defense Command, which includes antiaircraft defense, while the long-range bomber force comes under the Strategic Long-Range Command, which is directly subordinate to the Supreme Defense Council.

Of these the tactical air force is the most powerful and the most experienced, since during the war the main task of Soviet aviation was to support the Red

The Stalin-3 heavy tank, mounting a 122mm gun





The well-known MIG-15 jet and the twin-engine TU-2 medium bomber of the Soviet Air Force

Army in battle, and production was concentrated on planes for this purpose. There are more Soviet planes in this force than in any of the others, and a large proportion of them are jet fighters and fighter-bombers, such as the MIG-15 fighter and the Tupolev twin jet. However the Soviet Government has greatly developed its other air forces and expanded the production of the TU-4 long-range heavy bomber and defense fighters.

What is the total aircraft strength of the Soviet Union? General Gruenther gave a figure of 20,000 first-line aircraft to the Senate Foreign Relations Committee in March 1952, adding that 4,000 of the planes were jets.

According to recent American estimates, Russia produced 18,210 military aircraft in 1952, as against a United States output of 9,000 military planes in that year and an estimated 12,000 in 1953. But is an output of 18,210 planes really within the capacity of the Russian aircraft industry and the available manpower in it, and of the Soviet budget? The answer may well be that while Russia has 19,000 military aircraft, only about 14,000 are first-line, and that while Soviet production of fighters, fighter-bombers, and elementary training planes is undoubtedly high, the production of long-distance heavy bombers and troop transport planes is low.

As to the satellite armies in the West, there is no question at all about their incorporation in the Soviet battle plan. The sovietization of their staffs is now complete. All the satellite armies have large Soviet missions attached to them, and send officers to Russia for training.

The satellite armies have two serious weaknesses of which the Russians are very well aware. One is equipment, the other is leadership. Leadership is bad because of the ruthless purging of all

the officers corps of "unreliable elements." Almost the whole of the 1945 general staffs of the satellite armies have been compulsorily retired or are in exile. The satellite armies lack both leaders and technical specialists.

Realizing these weaknesses, what plan has Russia for using the satellite armies in event of war in Europe? It seems clear that in accordance with her defensive strategy she would use them as a cushion to take the first shock of attack, and is prepared to accept their complete destruction.

SOVIET Defense Minister Marshal Bulganin must be able to see the weaknesses and problems of his forces. Admirable though they may be as support for a cold war, they are dispersed over an enormous field. They stretch from the Bering Strait in the East to Helmsedt in the West: from the Arctic Circle in the North to the Iran frontier in the South. It is true that he has the army commander's dream, one hundred per cent internal communications and almost all the raw material supplies required to sustain a war machine. It would be near perfection, if the communications were efficient, which they are not. Although much of the war damage has been repaired, largely by reduc-

ing the lines of Eastern Europe to single track, the Russian railways are far below Western and American standards of efficiency.

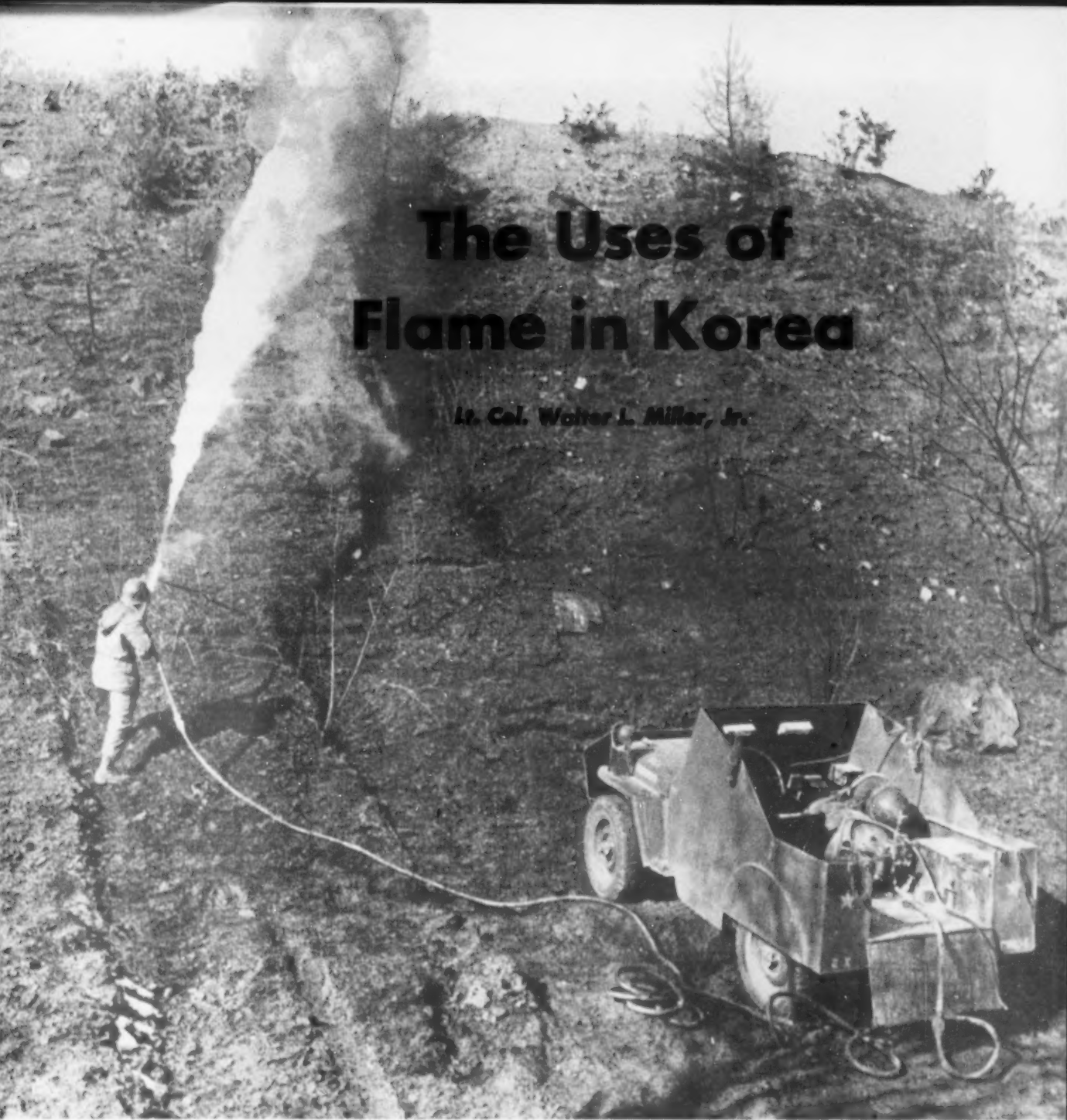
The majority of Russian roads, with the exception of a few motorways, are of very indifferent quality. A new minister for roads has just been appointed.

In their 1944-45 Western drive the Soviet armies lived on the country to a considerable degree. Today the cupboards and granaries and stores of Eastern Europe are bare. Russia's oil resources are barely sufficient to cover her peacetime needs, and are not sufficient to satisfy the insatiable thirst of great motorized armies.

The democratic defense system has its many weaknesses, but so has the Russian. Some of them appeared in the last war, and it is probable that few people save the military staff experts realize how near the Soviet armies came to absolute, final and complete defeat. Nor could they have carried out their counter-offensive without the great volume of war equipment placed at their disposal by the United States and Britain. The Soviet General Staff has learned a great deal from the 1941-1945 campaigns, and we can be sure it is making the most strenuous efforts to put the lessons into practice.

Towed 152mm gun-howitzer on parade in Moscow





The Uses of Flame in Korea

Lt. Col. Walter L. Miller, Jr.

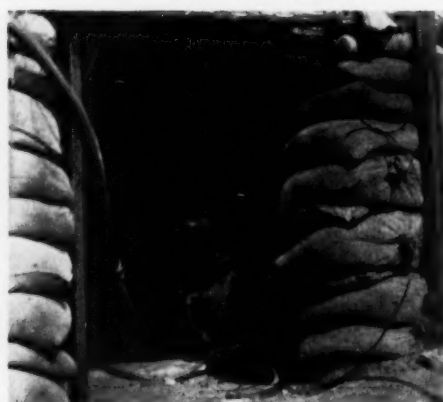
DURING the three years of the Korean conflict, flame was used advantageously by UN troops both in the attack and in defense. It was used in a number of forms and a number of very effective field expedients for using it were developed during the course of the conflict.

Perhaps the three most important lessons learned about the use of flame during the three years were:

(1) When you use flame, be sure to use enough of it. For example, one flame thrower will seldom do the job. It takes two or more to make sure that the target is really covered. One thrower can take over when the first is out of fuel thus prolonging the effect of the fire on the target.

(2) Plan their use. You must plan the use of flame weapons, just as you plan the use of other supporting weapons. These plans must include adequate quantities of fuel, servicing of the machines, orientation of operators, and coordination with other supporting weapons as well as the supported infantry unit.

(3) Training in the use of flame throwers. Each infantry division in Korea was authorized more than a hundred flame throwers and would have used more if they had been available. But the infantryman must be trained to use them; until he is, he will lack confidence in their effectiveness.



With the 100-foot extension hose the operator can swing his flame-thrower gun to meet the enemy without moving fuel tank.

Emplaced Flame Thrower

A 25-GALLON Sponson fuel tank from the M3-4-3 Mechanized Flame Thrower, a 100-foot hose extension, and a portable flame thrower gun makes a fine weapon to throw fire from an emplacement. The entire assembly, filled with napalm fuel, weighs about 550 lbs. To get a pressure can for use on the MLR, holes for letting air in and fuel out were bored into a QM gasoline cap that

fits the 5-gallon can. Pressure is supplied by a pressure bottle from the M2A1 PFT passing the air through a pressure regulator and reducing it to 28 PSI. In combat it was found desirable to have extra pressure bottles on the MLR to refill the tank. This is quieter than the lightweight compressor and won't attract enemy fire. The filled can of napalm fuel and lightweight compressor can be

hand carried. The 2d Infantry Division used this weapon several times and in each case the enemy withdrew in confusion. Normally, the main fuel tank is placed in a bunker and the hose extension with gun run forward to the gunner's "fighting hole" (see above). The hose extension allows the gunner freedom of movement to adjust his position to meet the enemy.

Hush Flare

AN illumination device that will silhouette the enemy during a night attack became known as the "Hush Flare." It consists of an illuminating grenade, two 81mm mortar metal cases and a five-gallon metal container. Holes 3/16-inch in diameter are bored in the bottom of the mortar cases. Upend the two cases in the metal container and wedge them tight with rocks. Attach a pull or trip wire to the illuminating grenade and wire it to the middle of the containers. Squeeze the cotter key so you'll have "hair trigger" release. Now fill the container with six per cent napalm. When the illuminating grenade is set off the napalm will be heated and two jets of light will stream out of the holes in the projectile cases, lighting a 50-yard area for three-quarters of an hour.



Hush Flare

Bunker Bomb

A FIELD expedient of great value to the combat infantryman is the napalm satchel charge or "Bunker Bomb." It consists of a caliber .30 or .50 machine-gun cartridge box, with a hole drilled in one end and the fuze from a WP grenade inserted through the hole from the outside. The body of the WP grenade is then screwed onto the fuze from the inside, sealing off the hole (see below). The box is filled with about five per cent napalm and the lid fastened closed, preferably by a light wire. The soldier assaulting a dugout

or bunker pulls the pin in the grenade fuze and heaves the box with contents into the interior of the fortification. White phosphorus and burning napalm accompanied by intense heat and choking smoke sear the inside of the position. The 31st Infantry Regiment, 7th Division, issued four of these charges per squad and got good results from it. Its light weight makes it popular with the foot soldier. Its use does not destroy a bunker as a shaped charge will and thus these positions can later be occupied by friendly troops.



"Bunker Bomb" consists of WP grenade and napalm in caliber .50 ammunition box. Release handle is on outside of box.



Soldier pulls the release and throws the bomb into the enemy's fortified hole. Light weight makes it popular in hill fighting.

Light Mechanized Thrower

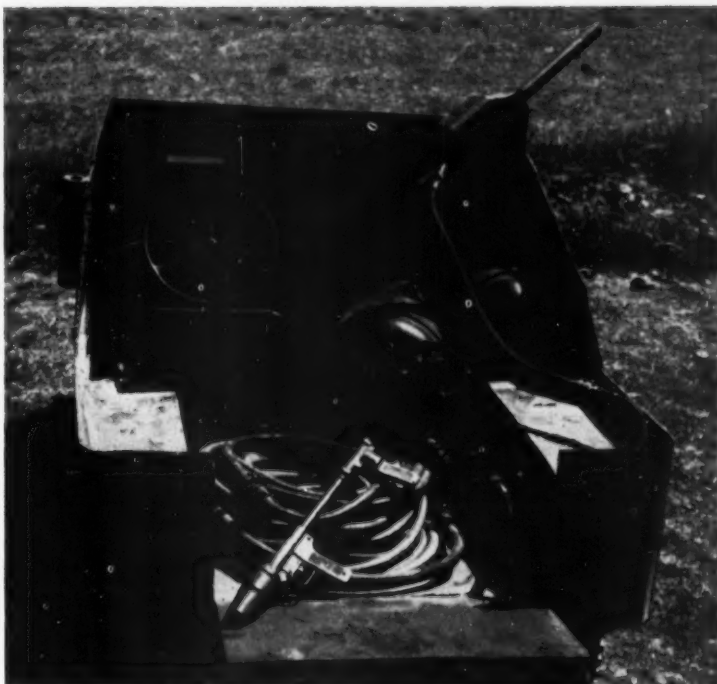
TO assist the infantry in the assault of enemy hilltop positions, particularly the last 50 yards, Ordnance and Chemical officers constructed a light mechanized flame thrower. A ½-ton jeep was armor plated, its springs reinforced, and a 25-gallon Sponson fuel tank from the M3-4-3 mechanized flame thrower was installed opposite the driver's seat. A 100-foot length of high pressure engineer air hose was coupled to the fuel tank and a portable flame thrower gun attached to the other end of the hose.

The vehicle would work up a hill and into a suitable position under the cover of smoke and close-in weapons fire. Then the hose would be run out and the flame aimed at the enemy on the top of the hill (see cut, page 37). It gave the infantryman a 25-gallon flame thrower with a 50-yard range, plus a 100-foot hose extension—that he didn't have to carry on his back! Later, a mechanized gun was added, so flame could be fired from the vehicle while it was moving. The flame thrower on this vehicle can be recharged with a full supply of napalm fuel and compressed air within three minutes by a trained crew, using the Chemical Corps' standard M4 Napalm Servicing Truck. Portable flame throwers were carried on the mechanized flame throwers to be used by the crews when the ground was too rough for jeeps.

A similar armored vehicle equipped with two caliber .30 machine guns and one 57mm recoilless rifle was constructed to help infantry get across fire-swept areas and into key positions. Known as the "Infantry Fighter," the low cost, low silhouette, light weight and great cross-country mobility made it popular.

Portable Flame Thrower

The standard portable flame thrower, M2A1, was used in the reduction of hill positions, but its 72 pounds were too much of a load for regular use. Also, it was necessary to reduce the pressure regulator settings to 275-300 PSI in order that ROK soldiers and other men of small stature could operate the hand grip. Later a lightweight portable flame thrower was devised by the Chemical Officer, I Corps. It was made from the standard frame, one tank and gun group assembly from the M2A1 flame thrower. The standard pressure bottle was replaced by a lightweight Air Force CO₂ 3-man life raft pressure bottle. This flame thrower weighed 40 pounds, and had a range of 50 yards. It was favored by patrols and during assaults. The shortage in fuel is made up by having a fairly large number of the lightweight flame throwers carried within the squad. This flame thrower is a field expedient and has limited use. However, it does point the way to development of a flame thrower weighing about 40 pounds.



Rear view of "Flaming Dragon" reveals equipment and armor plate.



Front view of the "Flaming Dragon"



The "Flaming Dragon" becomes an "Infantry Fighter" by substituting recoilless gun and machine guns for flame-throwing equipment.

The Word from the Schools

THE INFANTRY SCHOOL

New Courses

TIS has added five new courses to its curriculum. The addition for 1954's school year of a Judge Advocate General refresher course, Reserve Component Field Grade Officer refresher course, National Guard Officer Candidate course, Judge advocate General basic course and Wheeled Vehicle Mechanics course brings the total number of courses now offered by the Infantry School to 27.

The two-week Judge Advocate refresher course for the JAG Advanced Class is scheduled from 22 March to 3 April. It will consist of Infantry instruction that cannot be handled by the Judge Advocate General's School. The instruction will include atomic warfare, battle indoctrination, weapons, air transportability and combat arms training.

A Reserve Field Grade Officer course is scheduled from 12-24 April, and a Reserve Company Grade course will be held 19 April-1 May. Each class is authorized 185 National Guard and 25 Reserve officer students.

The National Guard Officer Candidate course will be held from 21 June to 17 August. Students will consist of those selected National Guard members seeking a commission. However, before being commissioned, each graduate must pass the National Guard board.

Three basic Judge Advocate General classes are scheduled. They will be held from 15 March-8 May; 28 June-25 August; and 27 September-22 November. The purpose of this new course is to provide newly commissioned JAG officers with basic military training.

Eleven classes, with an authorized enrollment of 50 students each, have been scheduled between 18 January and 24 August for the Wheeled Vehicle Mechanics course. It will consist of wheeled vehicle maintenance instruction and will also train mechanics to repair the vehicles used by an infantry regiment.

10,000 Airborne Soldiers

The Airborne Department at TIS will train 10,000 new airborne troops between January and April. Class capacities through 2 February have been 1,000. The first class had a total of 1,200 students. These are the largest classes conducted since World War II.

The volunteers will come from units of the XVIII Airborne Corps and 82d Airborne Division at Fort Bragg, N. C.; the 11th Airborne Division at Fort Campbell, Ky., and basic training camps.

More than 100 officers and enlisted men

of the 508th Airborne Regimental Combat Team have been assigned to special duty as cadre and instructors in the Airborne Department to assist in handling this increased enrollment.

New Field Manual

Field Manual 7-30, "Service and Medical Companies, Infantry Regiment," has been revised by The Infantry School. It has been approved by The Office of the Chief of Army Field Forces and is being printed. It contains supply and medical doctrine adopted by the Army as a result of lessons learned in World War II and Korea.

THE ARTILLERY SCHOOL

Oily Tube Decreases Velocity

A particularly interesting characteristic of weapon performance has been observed at service practices conducted at TAS during the past several months: Without exception, a decrease in muzzle velocity occurs if firing is commenced through a tube coated with a film of oil.

The oil film apparently has no appreciable effect on the muzzle velocity attained by the first round; since the decrease develops with the second and several subsequent rounds. Following this dip, muzzle velocity climbs back to the operating level (where normal, random variations from the average muzzle velocity occur). When graphed, the dip appears as a "trough." Evidently, the number of rounds in this trough is proportional to the oil film thickness in the tube when the first round is fired. Note: No trough develops when the tube is cleaned and swabbed dry prior to firing the initial round!

More than a ballistic novelty, the decrease in muzzle velocity can have one of two detrimental effects in a precision registration: (1) In the adjustment phase, a trough round (or rounds) can cause a false bracket, unknown both to the observer and FDC. The result is wasted time and ammunition, for the effect is identical to a round missensed by the observer. (2) In the fire for effect phase a series of trough rounds can invalidate an entire registration.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

Artillery Quotation of the Month

In none of our previous combat experience has the value of Artillery been greater both in inflicting losses on hostile forces and in minimizing those of our own Infantry.

GENERAL MATTHEW B. RIDGWAY
Korea, September 1951

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

Experience data indicate that the trough occurs for all ranges and charges. While tests have so far been conducted only with the 105mm, 155mm and 8-inch howitzers—the trough has appeared with each of these weapons; although its extent and magnitude are diminished in the heavier calibers—supporting troops of The Artillery Center are now required to *clean and dry tubes before the first firing of the day.*

Current plans of the Department of Gunnery call for similar tests to be conducted with a hot, oiled tube.

Fluorescent Training Aids

Fluorescent training aids are now available for general use in classroom instruction at TAS. Using essentially the same materials that have been a successful and popular advertising media, these visual aids have proved both readily conformable to heretofore difficult illustrations and a strong stimulus to student interest.

TAS uses fluorescent materials in three forms, principally: Chalk, paints, and tape. The first—capable of producing clear, brilliant colors on slate blackboards and easily adaptable to extemporaneous use by the instructor during class—is especially striking and effective when used in complicated wire diagrams and organizational charts. Paints are utilized, in accordance with instructor requirements, by the Training Aids Section for prepared aids. The tape is particularly suited to diagrammatic instruction, such as the presentation of tactical situations, and to classroom development of partially preconstructed charts.

The materials are of two types: First, there is the fluorescent material which, reacting to the ultraviolet light in daylight, always appears in vivid color. Then, there is the material which requires a special "black light" (i.e., ultraviolet) lamp to bring out the color. Under ordinary lighting conditions, this latter type appears a natural white; thus, against a white background, it is invisible until "black light" is applied.

Communication Exercises

Recent POI changes at TAS have upped the time allocated to communication tactical exercises from the previous 20 percent to 35 percent of the total time provided for all communication instruction.

Exercises are planned progressively to present different situations and systems, to include the field artillery firing battery and battalion, division artillery, FSCC, and certain AAA units (e.g., battalion, group, and the antiaircraft operations center). For each exercise, two preparatory steps are required: First, students are given a visual presentation of, and a briefing on, wire and radio net positioning. The

IRONS IN THE FIRE



Convertiplane

The XV-1 Convertiplane, the first military aircraft of this type ever built, is a joint development of the Air Force, Army Transportation Corps and McDonnell Aircraft Corporation. It embodies a completely new concept of flight known as the "unloaded rotor" principle—a machine equipped with a rotor for vertical flight and wings and propeller for forward flight.

The XV-1 is designed to carry three passengers or two litter patients and medical attendant in addition to the pilot. The craft is approximately 30 feet long, ten feet high and spans 26 feet in width.

visual presentation is accomplished by means of a terrain-board display or by an actual walk-through of pre-established field installations. The next step—usually a map exercise in the classroom or at the problem site—consists of planning the tactical exercise, to include specific instructions for reconnaissance, selection of positions, and other pertinent items.

For a particular exercise, students are initially assigned a specific duty and are then rotated through various positions (from wireman to commanding officer) as the problem progresses from phase to phase; students are graded on their performance in each phase. Thus, the student puts into practice under field conditions the knowledge gained from classroom instruction; of particular importance, he becomes intimately acquainted with the capabilities and limitations of equipment, the problem of how and where to employ available equipment, the need for first and second echelon maintenance, and the employment of field expedients.

Normally given near the close of instruction to insure that students have been thoroughly trained in equipment, procedure, security and systems employed, communication tactical exercises are an integral part of both general and communication specialist courses at TAS. It is recognized that, in addition to crystallizing classroom teaching, these exercises enable the student to work with personnel of varying degrees of skill; and to gain experience in leadership, initiative, and the imaginative application of theory.

Rough Sine Factors

Adjuncts to accuracy in observed fire, rough sine factors provide a rapid, easy solution to the problem of computing lateral

shift and change in distance when angular deviation exceeds 600 mils. Senior artillery officers will immediately recognize them as the old obliquity factors.

When reliable grid or polar coordinates cannot be determined, shifting from a known point is the best method of obtaining precise target location. However, when computing the lateral shift necessary in this

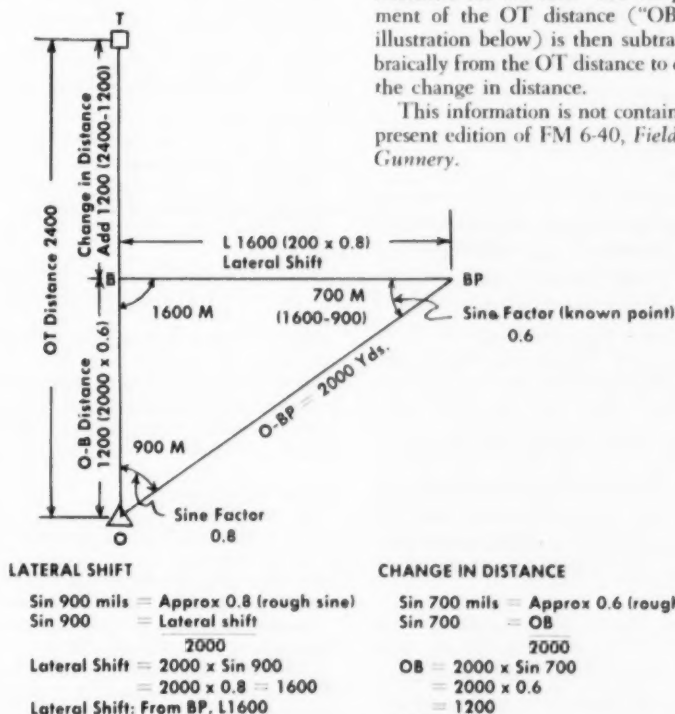
method, the mil relation fails if the deviation exceeds 600 mils. In such cases, i.e., when the angular deviation exceeds 600 mils—the sine values (rounded off to the nearest tenth) of the acute angles of the triangle formed by (1) the observer-known point line, (2) the OT line, and (3) a perpendicular to the OT line from the known point are used.

These rough sine factors are listed below:

Angular deviation in mils (Angles are rounded off to the nearest 100 mils before determining sine factors)	Rough Sine Factor
100-600	.1-.6
700	.6
800	.7
900	.8
1000	.8
1100	.9
1200	.9
1300-1600	1.0

The procedure—for computing the lateral shift and the change in distance when the angular deviation exceeds 600 mils—is simple. To compute the *lateral shift*, the observer-known point distance is multiplied by the rough sine factor for the angle of deviation at the OP. On the other hand, the *change in distance* along the OT line is determined in two steps: First, the observer-known point distance is multiplied by the rough sine factor of the angle at the known point; this gives the distance from the observer to the point on the OT line ("B," in the illustration below) where the perpendicular from the known point intersects the OT line. The computed segment of the OT distance ("OB," in the illustration below) is then subtracted algebraically from the OT distance to determine the change in distance.

This information is not contained in the present edition of FM 6-40, *Field Artillery Gunnery*.



CAREER MANAGEMENT AND YOUR FUTURE

THIS is the seventh in the series of articles on Career Management and how it serves you. If you have any comment or questions on this series please feel entirely free to write the editors or Career Management Division.

Civilian School Program

ARMY officers are in training in civilian colleges and universities and in industry throughout the United States. In the colleges and universities two programs exist, the long courses and the short courses: the long courses normally extend from nine to twenty-four months; the short courses, five months or less.

The purpose of the Army graduate education program in the long courses is to augment training conducted in service schools in order to provide a limited number of officers with specialized knowledge in scientific fields which will make them capable of working with civilian scientists and directing research and development in military fields, and in social sciences that will enable them to cope with the political and economic problems with which the Army is concerned. Essential language and area training is offered with a view to assignment to duties in which a knowledge of these languages is essential, as for example, intelligence type assignments. Annually, a few officers are enrolled for graduate work in various academic fields preparatory to their assignment as instructors at the United States Military Academy.

Training in short courses is usually in very limited and specialized fields and provides the officer with training essential for a particular assignment.

To be eligible for graduate training in long courses officers must meet these requirements: be Regular Army; be not over thirty-five years of age (waiver may be granted where circumstances warrant); have an acceptable undergraduate record, and usually have acquired a bachelor's degree or have completed substantially the requirements for that degree; agree to serve a minimum of four years after the completion of his graduate studies.

Regular officers of the combat arms may apply for civil schooling in long courses, normally on the master's degree level, in fields of the physical sciences (for example, nuclear physics, guided missiles, electronics, etc.), which courses usually run twenty-four months, and in fields of the social sciences (in-

ternational relations, psychology, business administration, journalism, etc.), which courses normally run for a period of twelve to twenty-one months. In very exceptional cases, training is on the doctorate level.

An officer may list in his application two or more subject matter fields in which he desires graduate training, and may state his preference of institutions. Applications may be forwarded at any time to The Adjutant General, ATTN: AGG-ES. Applications are kept on file in Civil Schools Section, Education and Specialist Training Branch, Career Management Division, Office of The Adjutant General, and are considered whenever selections are made to enter officers in school to fill requirements in subjects of the officer's choice.

Regular officers of the technical and administrative services may apply for long courses to their respective career

management branches. Specific subjects in which officers will be trained by the technical and administrative services may be obtained from the service.

All regular tuition and fees required by a university are paid under Army contract with the university. In addition, up to \$80 reimbursement per fiscal year is allowed each officer for the purchase of textbooks and expendable supplies used in his courses. Where a thesis is required, reimbursement up to \$50 is allowed to cover costs of typing and other expenses incurred in its preparation.

UPON completion of long courses, each officer is required to serve in a utilization assignment in the field of his training for a period of approximately three years on Department of the Army staff, headquarters of continental and overseas armies, and major commands and installations.

Regular and EAD officers of the combat arms and of the technical and administrative services who desire training in short courses in educational institutions or in industry may apply to their career management branches. Previous college training is not a prerequisite. A list of subjects in which the Department of the Army is desirous of training officers in short courses is published from time to time in letters and directives.

At the present time short courses in Psychological Warfare and in Advanced Management are offered to officers. The Psychological Warfare course is conducted twice a year, in February and September, at Georgetown University, and extends for a period of 16 weeks. Officers in the grades of first lieutenant through colonel are eligible.

The Advanced Management Program is conducted twice a year: in February and September at Harvard University for a period of 13 weeks, and in March and October at the University of Pittsburgh for a period of 9 weeks. Officers in the grades of lieutenant colonel and higher are eligible for the Pittsburgh course. For the Harvard course only colonels and general officers are eligible.

The appropriate regulations concerning the civil schooling program are, for long courses:

SR 350-230-1, Training of Military Personnel at Civilian Institutions

SR 350-20-1, Selection, Administration, and Assignments for Officer Students

SR 350-230-50, Training at Civilian Law Schools

SR 350-230-52, Civil Schooling for Regular Army Officers of Armor, Artillery, and Infantry

SR 350-380-1, Foreign Area Specialist Training

SR 350-230-55, Civilian Education for Regular Army Transportation Officers

SR 350-70-1, Industrial Mobilization Training Program

FOR SHORT COURSES:

SR 350-230-65, Psychological Warfare Course at Civilian Educational Institutions for Army Officers

SR 350-20-1, Selection, Administration, and Assignments for Officer Students

Circular 10, dated 13 Feb 53, Advanced Management Training of Officers

Additional information regarding civil schooling may be obtained by writing The Adjutant General, Washington 25, D. C., ATTN: Civil Schools Section, Education and Specialist Training Branch, Career Management Division.

The Month's Books

FATE AND GENERAL TRUSCOTT

COMMAND MISSIONS: A Personal Story. By Lt. Gen. L. K. Truscott, Jr. E. P. Dutton & Co., New York. 570 Pages; Maps; Index; \$7.50.

I stated recently in these pages in a summary of the memoirs by senior World War II commanders, that General Truscott had not been heard from. He has been heard from now, and the repercussions are likely to echo around in military circles for some time.

This is not to imply that General Truscott has written a primarily sensational and controversial book, but interspersed in his well-written "personal story," as he calls it, are some extremely frank expressions of opinion concerning many of his fellow officers.

The author starts off by saying that "luck plays a part in the life of every man," and it is evident that he realizes that Fate did him no harm when he was assigned as a corps G3 in 1941 under a chief of staff whom he had never met before—one Colonel Dwight D. Eisenhower. It of course took something more than luck to work up from that assignment to the job of an army commander before the end of 1944.

His first overseas assignment was one that is not generally known: senior American officer on Lord Louis Mountbatten's staff. Mountbatten was chief of the Combined Operations setup which included the Commandos and amphibious training in general. He was also believed to be in line to command the invasion of Europe on a rather peculiar lateral command basis which would control the assault phase on all beaches as a separate operation from the follow-up phases.

Truscott, never having been in combat and with no knowledge of amphibious operations, had some qualms about his new assignment, qualms which were not helped by General Marshall's greeting: "You are an older man than I wanted for this assignment," or General Eisenhower's comment: "You can learn, can't you?"

At the Dieppe raid, Truscott was the senior of about sixty American officers and men who participated or were "observers." He wrote his wife: "I will have to admit that I have seen war—and have been in danger—and have seen men die on land, on sea, in the sky."

A point of considerable professional interest is that there was, at the time, considerable opposition to raiding. Although the discussion applied specifically to cross-Channel raids, the arguments were not inappropriate to any static ground situation preceding an offensive. The arguments in favor of raids included harassing the enemy, getting identifications, forcing the enemy to reveal his dispositions and fire capabilities, and keeping our troops offensive-minded. In the 1942 situation a British naval officer pointed out that

while we were training our forces by means of raids, we were also training the enemy, and had this to say: "The Germans welcome these raids, for nothing shows up weakness in the defense more than an attack with a very limited objective. Every time we find a weak spot on the enemy's coast we point out his weakness, and there is ample evidence that he has taken and is taking full advantage of this information . . ."

Truscott, with the help of General Patton, got a sub-task force command for the North African invasion. He then became Deputy Chief of Staff to Eisenhower, and as such was closely associated with the controversial operations which resulted in the relief of several senior commanders.

As commander successively of the 3d Division, VI Corps, and Fifth Army, Truscott was a key commander in Sicily, Salerno, Anzio, Southern France, and in the

final offensive in Italy. During much of this time, his immediate superior was General Mark Clark.

Truscott pays tribute to Clark's "personal charm," and great ability as an executive and administrator, but he is highly critical of some of his tactical plans and decisions. An example is his opinion as to the change in orders during the Anzio breakout: "There has never been any doubt in my mind that had General Clark held loyalty to General Alexander's instructions, had he not changed the direction of my attack to the northwest on May 26th, the strategic objective of Anzio would have been accomplished in full. To be first in Rome was poor compensation for this lost opportunity."

He is equally frank about the "costly failure" of the 36th Infantry Division's attempt to cross the Rapido. As the publishers say: "Truscott is ruggedly honest in what he says about the other generals with whom he served." There will inevitably be readers who will disagree with his opinions or the desirability of his expressing them.

It is rather odd that what will probably be the last two books published by World War II army commanders should be exact opposites as to method. General Krueger's recent *From Down Under to Nippon* was so precisely limited to the story of his Sixth Army that much of it might have been written by an able historian who had never seen the Sixth Army. General Truscott's book, as has been indicated, is full of his personality.

It is unfortunate that, as the author says, "separation from personal records and pressure of other work" made necessary two pages of errata, and even they do not cover a considerable number of other errors, most of which, it seems, could have been caught by the publishers, particularly considering the price put on the book.—MAJ. GEN. H. W. BLAKELEY.

THE PROBLEM OF NEW WEAPONS

IDEAS AND WEAPONS. By I. B. Holley, Jr. Yale University Press, 1953. 222 Pages; Index; \$3.75.

The subtitle of this book: "Exploitation of the Aerial Weapon by the United States During World War I; A Study in the Relationship of Technological Advance, Military Doctrine, and the Development of Weapons," gives a clue to its content and purpose. The author served as a historical officer for the Air Force at Wright Field during the last part of World War II. This sharpened his insight into the relationship of ideas and weapons and convinced him that our country can no longer afford to follow haphazard and unsystematic methods in weapons development.

The subject chosen is a good one. The air weapon was a comparatively new de-

LINES FROM A NEW BOOK

The orientation lecture of Captain Gerald Russell, born in County Kerry, who commanded a troop of the 3d Cavalry on the frontier in the post-Civil War years:

"Young Min! I conghratulate yiz on bein assigned to moi thrupe, becoss praviusly to dis toime; I venture to say that moi thrupe had had more villins, loyars, teeves, scoundhrills and, I moight say, dam murdhrers than enny udder thrupe in de United States Ormy. I want yiz to pay sthricht attintion to jooty—and not become dhrunken vagabonds, wandhrin all over the face of God's Chreashun, spindin ivry cint of yur pay with low bum-mers. Avoide all timptashuns, loikwoise all discipashuns, so that in toime yez kin become non-commissioned offizurs; yez'll foind yer captin a very laynent man and very much given to laynency, fur Oi niver duz toi no man up bee der tumbs unless he duz bee late for a roll-call. Sarjint, dismiss de detachment."

The good captain was at times disappointed in the results:

"I decler to God!l'moity! The base ingratoichude of dem wearies (his name for the enlisted men) of moine is perficly 'stonishin! . . . they hev just smashed a bran new skillit over my nice first Sarjint's head'n all becoz dey didn't hev enough toe-mattuses in dere God-dam supe!"

MAJ. GEN. JOHN K. HERR

The Story of the U. S. Cavalry



Pass In Review

Considering its size and scope, the war in Korea has probably received closer editorial attention than any other conflict in history. Few wars have had so many controversial features, including public debate on the strategy and tactics. But up to now there hasn't been a thoughtful, factual analysis of the major aspects of the whole operation. *Substitute for Victory* (\$3.00), by John Dille, who covered Korea for *Life* magazine, helps fill this need. Dille believes that the war in Korea had to be fought, just as the truce was wise and necessary. He summarizes the many tactical benefits which accrued to our armed forces as a result of Korean fighting and since he feels that we could not have decisively defeated Communism in that theater, the MacArthur theory was wrong. Dille has sought objectivity and to avoid emotionalism, with considerable success.

Those of you who have been reading the bits and snatches of Major General William F. Dean's personal experiences as a prisoner in Korea which have been appearing in *The Saturday Evening Post* will be happy that his complete story will appear in book form in May. Tentative price is \$5.00. Our book service will stock the book.

Nancy Shea has just come out with a new edition of her famous *The Army Wife* (\$3.50), which will be welcomed in many quarters. She reports that the book has been extensively rewritten to meet present-day conditions. New sections cover Army life not only in the U. S., but at overseas stations as well. Likewise, there is much advice for the wives of NCOs and other enlisted personnel.

You who read the papers know what a tough job our Civil Defense people have had in getting the public interested in essential defense measures. The mayor in my town has publicly stated that he feels that CD funds are wasted. I think I can change his attitude by sending him a copy of Philip Wylie's new novel *Tomorrow* (\$3.50), which, in addition to being a fine job of writing and an excellent story, is one of the most alarming books of recent months. It's alarming, because he is writing with the present-day American people and their lethargy concerning harsh realities of atomic warfare very much in mind.

Through our Combat Forces Book Service, we make available the books we think our readers need and want at the best possible prices. Just last week, we were able to make a deal which we hope many of our readers will welcome. We were able to obtain a modest number of the popular *Thorndike-Barnhart Dictionary*, in the thumb-indexed edition, which we can sell to our members at a greatly reduced price for a limited time. This dictionary retails at \$3.75, and until we sell out the 60 copies we have, we can offer them at \$2.25 plus the usual 25-cent mailing and handling charge. Since we can't get more of these at this special price, we'll have to handle the orders on a first-come, first-served basis. We can honestly say that this is the best dictionary buy we've had.

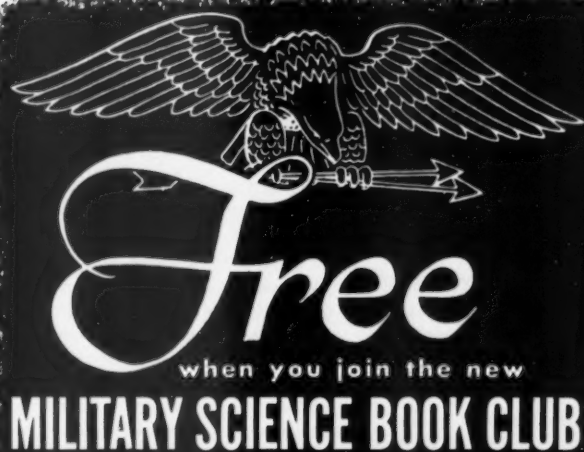
One of the more absorbing books of the current season is called *The Book of Famous Escapes* (\$4.95), edited by Eric Williams, famed author of and participator in *The Wooden Horse* escape of World War II. Certainly, Williams is fully qualified as an escape expert, which makes it all the more interesting to read his selections of the most exciting and famous escapes in history. These fantastic and breathtaking accounts start with John Gerard's escape from the Tower of London in 1597 and run through a total of eighteen including seven unusual escape accounts from World War II. Two of the most interesting concern Casanova's escape over the rooftops of Venice back in 1756, and the exploits of the indomitable Winston S. Churchill when he escaped from the Boers in 1901.—R.F.C.

velopment in World War I. Since we did not enter the struggle until 1917, one might assume that the United States would be in a position to profit by the experience of the other belligerents and lead the way in exploiting the full potential of the air weapon. We prided ourselves on our mechanical skill and manufacturing facilities. Yet the record we compiled in 1917-1918 in the matter of producing effective combat aircraft is a sorry one indeed. Today we are in a position in relation to the guided missile which is similar to that of the airplane in 1914. Like a great many other citizens, Mr. Holley is concerned that we shall do a better job of developing these and other new weapons than we did with aircraft 35 years ago.

The story of our effort to exploit the air weapon in 1917-1918 can be briefly told. Without a clear idea of what kind of planes were required and for what purpose, we nonetheless set out to build a vast air armada. We lacked adequate staff machinery to estimate future needs and to acquire accurate information about technical changes which were taking place in European aircraft development. Since the Signal Corps had been in charge of aviation in the U. S. Army, we leaned in the direction of reconnaissance aircraft. With a sublime faith that "individuals" could solve aircraft design and procurement problems, we sent many missions to Europe whose frequent suggestions for changes in design drove constructors crazy. Not being able to keep up with the rapid obsolescence of designs and power plants, we were limited at the end of the war to turning out obsolete observation planes which Pershing begged us to keep in the United States. We were on the track of something promising in the Liberty engine, but the war ended before we gained anything from its development. Then, true to form, we allowed our painfully built-up technical agencies to dissolve, with an almost complete loss of their specialized knowledge and know-how.

Looking back on this frustrating and expensive experience, Mr. Holley draws the following conclusions: (1) Maximum exploitation of new weapons requires an understanding by the military of the need for superior weapons and for doctrines governing their employment. (2) Our failure to formulate requirements and doctrines for the air weapon stemmed from faulty organization. (3) Our substitution of quantity for quality as an objective in aircraft production stemmed from ignorance of the nature of the air war in Europe. (4) A systematic, objective, and continuous flow of information to all echelons was required so that decisions on matters of design, armament and employment could be made intelligently. (5) Decisions in highly technical fields which were made on the basis of "opinions, memory, personal experience, or emotional bias" led only to failure.

What Mr. Holley is asking for are operations research and analysis to go hand



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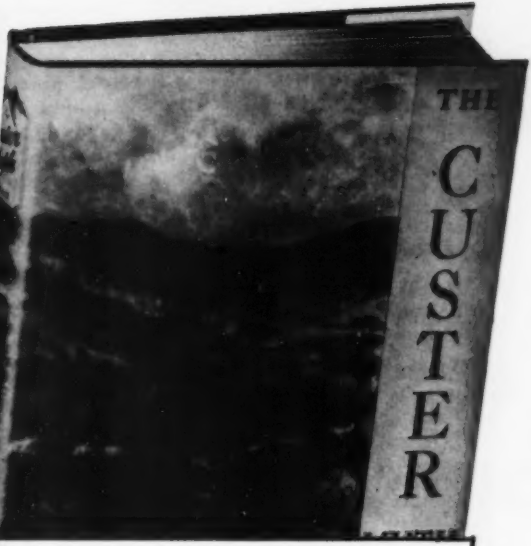
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by COLONEL W. A. GRAHAM, USA, Retired

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in hand with weapons employment, tactics, and military leadership. The scientist must try to understand the problems of employing weapons in practice, but on the other hand professional military leaders must not insist on employing obsolete weapons simply because they have become accustomed to them in the past. One might add that it would be helpful to have a realistic statement of what our national objectives might be in a war with super-destructive weapons.—H. A. DEWEERD.

BEGINNINGS OF THE INEFFECTIVE SOLDIER

PSYCHIATRY AND MILITARY MANPOWER POLICY. A Reappraisal of the Experience in World War II. By Eli Ginsberg, John L. Herma, and Sol W. Ginsberg, M.D. Columbia University Press, 1953. 66 Pages; \$2.00.

This little book, the first of the "Human Resources Studies" by the staff of the Conservation of Human Resources Project of the Columbia University School of Business, contains nothing that is new. But it may play a significant role in defining the role of military psychiatry: what it can and cannot do. It is concerned with changes in the psychiatric "theories" which affected personnel and manpower policies in World War II. It is based on the current "reflections" of a representative group of about 53 psychiatrists who were involved in military psychiatry during that period. Three major topics are evaluated: the significance of the screening figures which indicated that about one million men were rejected, attempts to determine "why men break," and comparisons of military service with civilian life.

Many of the psychiatrists have changed their minds about what they originally thought was important. The conclusions are familiar ones:

Screening procedures eliminated too many men because "potential breakdown" could not be accurately estimated. So now, only those who are obviously unsuitable are screened out.

There was too much emphasis on "clinical concepts" during World War II; now it is recognized that the position a soldier occupies, its "stresses and supports," are equally important.

Psychiatrists were "uncertain" about the extent to which military life differed from civilian life.

Finally, the usual recommendations for "improved personnel management" are made: "better and more mature leaders," "an improved rotation and replacement system," and "an improved basic training system."

Certainly, no one would dispute the need for better leaders, for rotation and replacements, and for better basic training. But no one has yet come forth with a solution. Indeed, there may be none, but it would be worth while if the authors could establish even this. For then we could get on with the problem of making the best use of the national policies toward military manpower, rather than accepting make-shift answers.

The authors are on the way toward a study of *The Ineffective Soldier*. Perhaps there they will attempt a solution. Meanwhile, this little book will be interesting to anyone who would like to see how some psychiatrists have changed their minds.—CAPT. ROGER W. LITTLE.

TRACT FOR OUR TIMES

THE STATESMANSHIP OF THE CIVIL WAR. By Allan Nevins. The Macmillan Company, 1953. 82 Pages; \$2.25.

Victory in modern war requires more than ever that statesmen and soldiers understand each others' purposes and problems. No longer can we tolerate, without risk of defeat, a repetition of the disastrous ignorance of general policy and political necessities that frustrated the earlier Northern generals in the Civil War. This aspect of statesmanship is noted emphatically in Professor Nevins's brilliantly written, subtle and succinct appraisal of civilian leadership on both sides in the War Between the States. His reading of character and personality of Abraham Lincoln and Jefferson Davis, his estimate of their effectiveness as leaders, and his interpretation of their policies—military, foreign and domestic—are valuable contributions to military history. In a larger sense, his book is not without value to us as a tract for our times when an international crisis presents even more difficult problems to our statesmen than did the domestic crisis of 1861 to Lin-

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To reach his conclusions concerning the character of the two presidents, their ability as organizers and administrators, and the influence of moral and other intangible factors on their decisions and actions, it is clear that Professor Nevins has weighed the evidence most carefully in his search for truth. Disagreement with a few of his findings in no way alters the conviction of this reviewer that Civil War history has gained in this book a most helpful summary of the quality of leadership in that conflict.—BRIG. GEN. DONALD ARMSTRONG.

PROTECT YOURSELF

PENSION AND RETIREMENT RIGHTS. Edited by Lt. Col. S. F. Tillman. Privately published, 1953. 82 Pages; \$1.00.

"You," says Colonel Tillman, "have the responsibility of learning for yourself the benefits—either as a veteran or serviceman—to which you may be entitled. Also, the benefits that your dependents may be entitled to—someday."

This little book is one of the few places where an attempt has been made to bring together in language that the layman can understand, the dollar and cents results of a considerable amount of complex legislation. It not only discusses the pension and retirement rights of various classes of military personnel, but also the assorted benefits to which veterans are entitled, the relatively new and little understood social security benefits for military personnel and their families, and survivors' benefits for retired personnel.

On this last subject—which involves the election of what reduction, if any, in pay is desired to provide some income for families after the death of the recipient of military pay—all retired personnel face the necessity of a prompt decision. It will be good news to those who have already received the forms and instructions from the Finance Officers who pay them that Colonel Tillman says "it's not very complicated, really." Some will undoubtedly regard this comment as optimistic.

The author emphasizes the importance of the initiation of an estate plan by every soldier—officer or enlisted man—as soon as he enters active military service. By integrating government benefits and insurance with commercial insurance and savings, and by making appropriate increases as you marry, are promoted, and advance in years, you will better enjoy your retired years.—H. W. B.

MANASSAS COMES ALIVE

BULL RUN REMEMBERS. By Joseph Mills Hanson. National Capitol Publishers, Inc. 194 Pages; Illustrated; Maps; Index. \$1.90.

Here we have a fascinating and historically correct account of two of the most important battles of our Civil War. Under Major Hanson's facile pen the Manassas area comes alive, as seen by the men who

wore the Blue and the Gray ninety-odd years ago.

One might classify this as a guide book to the battlefield, but it is much more than that. The operations, the leaders, the soldiers are all here, together with accounts of what they wore and ate, and their weapons. For those who wish to trace the action on the spot, the maps are perfect, since they superpose the battles upon the modern road net.

The author, a competent historian, was, until his retirement in 1947, superintendent of the Manassas National Battlefield Park. This book should be possessed by every student of the Civil War.—COL. R. ERNEST DUPUY.

BOOKS RECEIVED

FATE AND FREEDOM. By Jerome Frank. The Beacon Press, 1953. 376 Pages; Index; \$4.00. A revised edition of Judge Frank's philosophy for free Americans.

GEOGRAPHY FROM THE AIR. By F. Walker. E. P. Dutton & Company, 1953. 111 Pages; Index; \$7.50. The first book in English to explain and illustrate the use of air photos in the study of geography, with 96 plates and 3 diagrams.

AMERICANS ARE ALONE IN THE WORLD. By Luigi Barzini, Jr. Random House, 1953. 209 Pages; \$2.50. An interpretation of America's role as the leader of the free world, by an Italian journalist.

HUNTING & FISHING IN NORTH AMERICA. By Michael Cramond. University of Oklahoma Press, 1953. 394 Pages; Illustrated; Index; \$5.95. The author is a guide, explorer, and widely read contributor to sporting magazines.

UN: TODAY AND TOMORROW. By Eleanor Roosevelt and William DeWitt. Harper & Brothers, 1953. 236 Pages; Index; \$3.00. The UN's accomplishments, functions, and future. Includes a question-and-answer section, and the UN Charter.

THE FLYING YEARS. By Lamont Buchanan. G. P. Putnam's Sons, 1953. 188 Pages; Index; \$5.00. A pictorial history of man's conquest of the air.

DENZENS OF THE DEEP. By Philip Wylie. Rinehart & Company, 1953. 222 Pages; \$3.00. True tales of deep-sea fishing.

DECISION FOR WAR. 1917. By Samuel R. Spencer, Jr. Richard R. Smith, 1953. 110 Pages; Illustrated; \$2.50. The *Laconia* sinking and the Zimmermann telegram as key factors in the public reaction against Germany.

MIDDLE EAST AND FAR EAST. By Allan S. Walker, M.D. Australian War Memorial, 1953. 701 Pages; Illustrated; Maps; \$5.50. The second volume in the medical series of the official *Australia in the War of 1939-1945*.

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The February issue arrived yesterday and I have nearly finished reading it from cover to cover. May I congratulate you on an exceptionally informative and well-balanced issue! As each issue arrives, I appreciate more and more the worth of my subscription.

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